National Library of Canada
Bibliothèque nationale du Canada

Canadian Theses Service
Service des thèses canadiennes

Ottawa, Canada
K1A 0N4

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, tests publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30.

NL-339 (r. 88/04)

Canada

THE UNIVERSITY OF ALBERTA

ASSESSING ALCOHOL AND DRUG TROUBLED PEOPLE: A PROPOSED BATTERY

BY

J. ROBERT HUNTER

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

AND RESEARCH IN PARTIAL FULFILMENT OF THE

REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

IN

COUNSELLING PSYCHOLOGY

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

(SPRING)(1988)

Permission has been granted to the National Library of Canada to microfilm this thesis and to lend or sell copies of the film.

The author (copyright owner) has reserved other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without his/her written permission.

L'autorisation a été accordée à la Bibliothèque nationale du Canada de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur (titulaire du droit d'auteur) se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation écrite.

ISBN 0-315-42927-5

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR: J. Robert Hunter

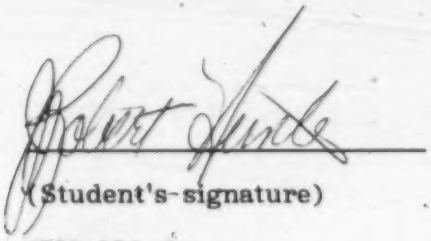
TITLE OF THESIS: Assessing Alcohol and Drug Troubled People: A Proposed Battery

DEGREE: Master of Education

YEAR THIS DEGREE GRANTED: 1988

Permission is hereby granted to THE UNIVERSITY OF ALBERTA LIBRARY to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.



(Student's signature)

4539-12A Ave

Edmonton, AB

T6L 3L3

Date: April 25, 1988

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Assessing Alcohol and Drug Troubled People: A Proposed Battery submitted by J. Robert Hunter in partial fulfillment of the requirements for the degree of Master of Education in Counselling Psychology

K. F. Jones

(Supervisor)

Date: April 22, 1988

DEDICATION

I dedicate this thesis to Alexander Jameison Hunter, and Thelma Patricia Hunter whose value of higher education lead me to pursue it, and to Paula Ruth Hunter, Erin Beth Hunter, and Aimee Lynne Hunter whose personal sacrifice and support allowed me to achieve it.

ABSTRACT

Using a critical review of the literature related to the assessment of alcohol and drug problems, this study proposed (a) to expand background knowledge as rationale for a comprehensive assessment model for alcohol and drug problems, and (b) a comprehensive assessment battery of existing instruments suitable for use in a provincial addictions treatment agency in Alberta. The study established four questions pertinent to this goal. They are: (a) What is an alcohol or drug problem? (b) What are the variables that need to be assessed? (c) What instruments will best assess the variables? (d) What decisions can be made from the assembled battery? A five point conceptual framework for alcohol and drug problems was developed and subsequently nine variables considered imperative in the assessment of alcohol/drug troubled people were outlined. Five instruments were chosen as central to the proposed battery. The Alcohol Dependence Survey and The Drug Abuse Screening Test were determined to be the most useful screening instruments. The Addiction Severity Index was found to provide the best assessment of alcohol- drug-related problems in a brief and very useable manner. In addition to these three instruments, the study suggested the development of a simple Intoxication/Withdrawal Checklist and a Five Top Treatment Goals Checklist. The study then discussed what treatment related decisions could be made from the proposed battery. Finally, the study discussed future concerns and directions.

PREFACE

The Alberta Alcohol and Drug Abuse Commission provided support for this research. However, the views expressed and positions taken herein are those of the author and are not necessarily those of the Alberta Alcohol and Drug Abuse Commission.

ACKNOWLEDGEMENTS

I would like to acknowledge the contribution of the following individuals whose assistance made the completion of this thesis possible: Brian Kearns and Wayne Bazant, who provided financial support and time, without which this project could not have been completed. Bob Hubbard, whose confidence and continued support throughout this project made me believe it could be done. Eileen Hallett, whose energy, interest, skill, positive attitude, knowledge of libraries, and organizational skills made a thorough literature search look easy. Polly Mitchell, whose speed and skill at keyboarding are now, I am sure, legendary. Betty Roline, my supervisor, whose support and flexibility at critical times allowed me to complete this project. Corliss Burke, Joy Thompson, Bob Bell, and Martin Law, who made significant contributions to this project through the sharing of their knowledge and experience in the addictions field. The staff of Henwood whose support during this project meant a great deal. Ruth Rampling, whose novice keyboarding got all the references in the proper form, and whose precise editing and attention to detail made the final product readable. Fred Burghardt, a long time and close personal friend, who did not let friendship cloud critical analysis while editing. Finally, my advisor Ronna Jevne, whose direction, motivational support, and unending patience allowed it to begin and finish.

TABLE OF CONTENTS

CHAPTER		PAGE
1.	Introduction	1.
	Background	1.
	Need For The Study	2.
	Purpose of The Study	3.
	Overview of The Thesis	4.
2.	Methodology	6.
	Introduction	6.
	Critical Review of the Literature	6.
	Literature Search	6.
	Nature of the Literature	7.
	Approach of the Critical Review	8.
	Four Questions	8.
	Summary	11.
3.	Literature Review	12.
	Introduction	12.
	Literature Search	12.
	What is an Alcohol or Drug Problem?	12.
	What Are The Variables That Need To Be Assessed?	31.
	What Are The Best Instruments to Assess the Selected Areas?	38.
4.	Discussion and Recommendations	52.
	Review	52.
	A Proposed Battery	55.
	What Decisions Can Be Made From The Assessment Battery?	55.
	Availability of Instruments	57.

Future Recommendations ..... 57.

REFERENCES ..... 74.

LIST OF TABLES

Table	Description	Page
1.	Thesis Methodology	60
2.	Comparing Three Frameworks	61
3.	Analysis of Conceptual Frameworks	63
4.	The Variables of Assessment: Four Authors Compared	64
5.	Summary of Instruments Excluded and the Reason for Exclusion	65
6.	List of Variables Requiring Assessment and The Instruments Providing The Assessment	71
7.	Decisions From the Assessment Battery	72

CHAPTER ONE

Introduction

Background

Alcohol and drug problems have been with mankind for thousands of years (Crawshaw, 1978). They continue today and are of serious concern to both the individuals affected and to society in general (Working Group on Alcohol Statistics, 1984). Yet serious study and treatment of these problems are relatively recent phenomena, most notably over the past fifty years. In addition to its newness, the study of alcohol/drug problems has suffered from the burden of a cultural environment that saw addiction problems primarily as moral in nature.

Against this moral backdrop, the work of Alcoholics Anonymous and the research of E. M. Jellinek emerged, leading the alcohol/drug field toward a medical model understanding of these problems. The medical perspective led to the view that alcohol/drug problems are unidimensional in nature.

It was a small and reasonable jump from understanding the problem as unidimensional to the notion that the treatment be unidimensional. That is, since the problem is the same for all, it must follow that the people experiencing the problem must also be the same, and indeed the treatment must be the same for all. With this understanding, the focus logically became the recognition or identification of drinking or drug problems.

Need For The Study

The medical model approach to alcohol and drug problems, more commonly referred to as the Disease Concept, gained wide acceptance

among intervention practitioners. Researchers, over the past twenty years, have come to see alcohol/drug problems as more complex phenomena. It is generally accepted by these researchers that alcohol and drug problems are not unidimensional phenomena; there is great variation in both the development and expression of these problems (Pattison, Sobell, & Sobell, 1977; Glaser, 1980; McLellan, Luborsky, Woody, & O'Brien, 1980). Yet despite this advance in the understanding of the problem, the focus of intervention is still screening rather than assessment. This distinction is important, because screening determines the presence of a problem while assessment describes the problem, which is a step necessary to successful intervention. This continued focus on the screening of alcohol and drug problems, and the failure to recognize the diversity of these problems, can only mean poor success rates in treatment (Glaser, 1980).

To this point little work has been done on a comprehensive assessment model; that is, an assessment approach that involves evaluating the individual's major life areas in relation to their use of substances. The one exception to this is a major study done at the Addiction Research Foundation of Ontario in 1976-1977. This study was ambitious, and involved an extensive battery of tests directed at assessing alcohol and drug problems (Glaser, Annis, Skinner, Pearlman, Segal, Sisson, Ogborne, Bohnen, Gazda, and Zimmerman, 1984). However, the system of assessment and treatment delivery was never put into practice after the study was completed. Since the completion of that study, new assessment instruments have been developed, and research has generally advanced the understanding of both assessment

and treatment.

However, a comprehensive assessment package for use with people experiencing alcohol/drug problems, based on current knowledge of the problem and current assessment techniques, is clearly not available and is therefore required.

Purpose of The Study

The intent of this thesis proposes (a) to provide background knowledge as rationale for a comprehensive assessment battery, and (b) to propose a comprehensive assessment battery, of existing instruments, for use in a provincial addictions treatment agency in Alberta. The Alberta Alcohol and Drug Abuse Commission (AADAC) delivers a wide range of treatment services across the province through detoxification units, short term residential centres, large urban outpatient clinics and small one and two counsellor rural offices. The battery will be directed at those people who have been referred to AADAC with a probable alcohol and/or drug problem, as opposed to those individuals who are not suspected of having a problem at all.

The main purpose of this thesis is not to propose an identification instrument. The primary purpose is to bring together a battery of existing instruments which will assess the various aspects of the individual that are relevant to an alcohol or drug problem. A comprehensive assessment package must include an identification component in order to determine whether a full assessment is required. In addition to identifying the problems that these people are experiencing, it will also focus on their individual resources which are relevant to recovery.

This research will propose practical and useable tools intended to

help make the judgments of addiction counsellors more uniform and reliable, and subsequently the treatment of clients more relevant, and hopefully more effective. Several authors (Glaser, 1984; Skinner, 1981a; McLellan, Woody, Luborsky, O'Brien, and Druley, 1983) argue for the necessity of assessment. However, at present there appears to be little hard evidence that assessment will result in more effective treatment. Solomon (1981) contends that this lack of evidence is an artifact of poor research design, and not an indication that assessment and the matching of clients to appropriate treatments has failed. Despite this lack of empirical support it still seems reasonable to assume that to assess client needs for treatment, and then attending to those needs, will produce more effective client treatment than not to assess client needs.

It is not the purpose of this thesis to evaluate the effectiveness of the proposed assessment tools. Rather, the author intends to provide a model for implementation which can then be developed, piloted, and evaluated. It is hoped that the proposed assessment/ treatment system will contribute, in a significant way, to the treatment of individuals with alcohol/drug problems.

Overview of The Thesis

Chapter One of this thesis discussed the background of the addictions field relevant to this study. In addition, it examined the need for the study and the purpose of this thesis. Chapter Two outlines the methodology used in conducting this study. Chapter Three reviews the literature in the field relevant to the assessment of alcohol/drug troubled people. Chapter Four discusses the results of

this research in a particular context and proposes a comprehensive assessment battery; as well, future developments are considered.

CHAPTER TWO

Methodology

Introduction

As stated in Chapter 1 the intent of this thesis is twofold: (a) to provide background knowledge as rationale for a comprehensive assessment battery, and (b) to propose a comprehensive assessment battery, of existing instruments, for use in a provincial addictions treatment agency in Alberta. It is important to note that the majority of clients presenting for assistance at AADAC's treatment facilities have already been identified as having some degree of problem with alcohol or drugs. Thus, the assessment battery will not be required to find cases in the general population. The focus of assessment can then be clinical. Its purpose is to provide the information necessary for effective treatment planning.

Critical Review of the Literature

The first step toward developing an assessment strategy involved a thorough search and critical review of the literature.

Literature Search

In order to ensure that the most current and complete information was brought to bear on the subject, the following libraries were used: The Alberta Alcohol and Drug Abuse Commission (AADAC) Library; The University of Alberta, Health Sciences Library; The University of Alberta, Education Library; The University of Alberta, Science Library; and University of Alberta, Humanities Library; The Ralph G. Connor Alcohol Research Reference Files, Center of Alcohol Studies, Rutgers University. Manual searches were conducted through Psychological Abstracts and Index Medicus, and computer searches were conducted

through PsychINFO, Medline, and The National Clearing House on Alcohol Information (NACALI).

Nature of the Literature.

As in many fields of research, there is a good deal of debate in the field of alcohol/drug problem assessment. Thus, the task of finding an appropriate assessment battery did not have an immediately apparent solution. A review of the literature on alcohol and drug problem assessment allows for its division into four major categories.

First, there are those articles on assessment which are theoretical in nature. In general, these articles take the approach of supporting the need for assessment, and often propose some form of assessment. However few of these articles make reference to empirical data.

A second group of articles may be classified as empirical. They often discuss identification of alcohol and drug problems but, even when well done, seldom look at the subject from the perspective of assessment and subsequent treatment of clients. However, these articles have some potential both for the development of the screening aspect of the assessment battery and for predicting treatment outcome for clients. In this group of articles, there is also a small but solid number that deal empirically with the issue of assessment and treatment.

A third group of articles can be classified as clinical. They tend to be written from a particular clinical perspective, and often propose a form of assessment that is required to effectively implement their particular therapy.

A fourth group of articles looks at treatment outcomes. This is a confusing group of articles, as they are often clinical in nature and

empirical evidence is not abundant.

Approach of the Critical Review

The variety of perspectives found in the literature made clear the necessity for a consistent, critical approach in performing the task of reviewing the literature. To focus the literature review, this thesis kept as central the question: "What is the best battery for assessing individuals with alcohol and/or drug problems?" This question can be seen as four subquestions. The first question is really a priori and that is "What is an alcohol and drug problem?" One cannot really propose an assessment strategy without first having or developing a clear conceptual framework of the problem. The second question is "What are the important areas or variables that need to be assessed?" The third question is "What strategies will best assess those areas?" The fourth question is "What decisions can be made from the information gained through the various strategies?" (Skinner, (1981a, p. 323).

Four Questions

What is an Alcohol or Drug Problem?

Answering the first question about the conceptual framework involves outlining the major frameworks in the field, as found in the literature, examining their basic tenets, and then evaluating them using the characteristics of a good theory. Thomas (1985) provides an excellent outline for comparing theories in his book Comparing Theories of Child Development (pp. 17-23). For purposes of this study Thomas' approach has been adapted for use here.

1. A conceptual framework is better if it accurately reflects the facts of the real world.

2. A conceptual framework is better if it is clearly

understandable to any one who is reasonably competent.

3. A conceptual framework is better if it accurately predicts future events.

4. A conceptual framework is better if it offers practical guidance in the solving of daily problems.

5. A conceptual framework is better if it is internally consistent.

6. A conceptual framework is better if it is founded on as few assumptions as possible.

7. A conceptual framework is better if it is falsifiable or disconfirmable.

8. A conceptual framework is better if it stimulates the creation of new research.

9. A conceptual framework is better if it is self-satisfying.

The conceptual framework that performs the best under these criteria was selected for use in this study.

What Are The Variables That Need To Be Assessed?

The answer to this question was dealt with by reviewing the work of the proponents of the conceptual framework chosen, and listing the areas they deem as needing to be assessed. Those that were consistent with the conceptual framework were included and those that are not have been excluded.

What Instruments Will Best Assess The Variables?

This question was answered in a three stage process. First, the literature and other sources, such as various addiction agencies, were scanned to find out what instruments are available. Then these instruments were tested against criteria established by the needs of the agency, and by criteria which were clearly outlined by Skinner (1981a,

p. 345). Third, a selection of instruments was made based on these criteria.

The needs of the agency, specifically AADAC, set three important criteria.

1. The instrument must provide information that will be useful to the treatment planning of individual clients.

2. Each individual instrument in the battery must be easily administered, scored and interpreted by the agency's counselling staff, most of whom are not trained psychometricians.

3. The battery must be practical and efficient in terms of the time it takes to administer, score and interpret. The general working situations of the majority of staff preclude a battery requiring more than a total of two hours.

In the literature, Skinner is the only author who directly addresses the issue of criteria to be used to determine whether an instrument is to be included in the assessment of an alcohol and/or drug problem. It is fortunate that his criteria possess both clarity and logic. It is also interesting to note the similarity between Skinner's criteria for instrument selection, Thomas' criteria for evaluating theories, and the needs of the agency. Skinner's criteria have been adapted for use in this context.

1. The instrument should have theoretical relevance to the treatment of clients with alcohol- drug-related problems.

2. The instrument should possess superior administration feasibility and cost-effectiveness relative to other potential measures of the same construct.

3. The instrument should possess an adequate level of reliability,

since reliability sets a mathematical upper limit on the ability of a measure to predict treatment outcome variables.

4. The instrument should possess minimal redundancy with other measures in the battery, that is, the instrument must provide sufficient unique information to justify its inclusion.

5. The instrument should be relatively free from response biases such as denial; otherwise difficulties will be encountered when interpreting the results.

6. The instrument should possess predictive validity (utility) with respect to treatment outcome and community follow-up data (Skinner, 1981a, p. 345).

What decisions can be made from the battery assembled?

This question was answered by reviewing the information provided by each instrument and then determining the decisions that can be made.

Summary

This chapter has reviewed the method that this study used (a) to provide background knowledge as rationale for a comprehensive assessment battery, and (b) to propose a comprehensive assessment battery, of existing instruments, for use in a provincial addictions treatment agency in Alberta. It described the sources of information for the study and the method of critical review that was used. The review method included a series of four questions and related decision criteria. These have been summarized in Table 1 on page 60.

CHAPTER THREE

Literature Review

Introduction

This chapter begins with an overview of the findings of the literature search. It then deals with the findings in relation to each of the four questions outlined in the previous chapter.

Literature Search

Initially a thorough literature search, yielding approximately 5000 references, was done to ensure that the significant and current knowledge in the area was reviewed. A review of these titles for their relevance to the subject of assessment, and to the conceptual framework of alcohol and drug problems, narrowed the selection to about 700 titles which were then seriously considered. A reading of the abstracts of these 700 narrowed to 375 the references which were selected for inclusion in the literature review. A reference was considered relevant if it addressed the issues of assessment of alcohol/drug problems, or if it discussed the nature of alcohol/drug problems.

What is an Alcohol or Drug Problem

Although there are numerous theories, models and approaches (Bell, 1978a; Bell, 1978b), few have had decisive impact or received general acceptance in this field, and thus added rather than reduced controversy. In addition, the majority of theories are related to alcohol use. Despite these difficulties, there are at least four major approaches that can be identified to answer the question "What is an alcohol or drug problem?" The four major conceptual frameworks are: (a) The Disease Concept of Alcoholism; (b) a framework developed by Pattison, Sobell, and Sobell (1977); (c) the approach of the World

Health Organization and (d) the approach of The Diagnostic and Statistical Manual of Mental Disorders (Third Edition) (DSM-III). Each is described below. Then the evaluative criteria of a good conceptual framework is applied to each.

Four Frameworks Described

Disease Concept.

This approach has its origins in the work of Alcoholics Anonymous and the research work of E. M. Jellinek (1952, 1960). The model is important as it was the first significant scientific approach to alcohol problems. The model continues to be significant simply because of its continued impact on the treatment of individuals with alcohol and drug problems. Authors such as Johnson (1980), Mann (1981) and others continue to write about the disease concept, but there existed no clear description of, or explicit agreement to, a particular form of the model.

Pattison, Sobell, & Sobell (1977) provide a useful description of the disease concept, or as they term it, "the traditional model". They describe it as a folk science model which is an "accretion of beliefs, values, and ideologies" (p. 1). They gather together these beliefs, values, and ideologies and condense them into a format, useful in the evaluation of the disease concept of alcoholism. In summary, they characterize the disease model as follows:

1. There is a unitary phenomenon which can be identified as alcoholism. Despite its variations, alcoholism can be considered a distinct entity which can be described and recognized.

2. Alcoholics and pre-alcoholics are essentially different from non-alcoholics.

3. Alcoholics may sometimes experience a seemingly irresistible physical craving for alcohol, or a strong psychological compulsion to drink.

4. Alcoholics gradually develop a process called "loss of control" over drinking, and possibly even an inability to stop drinking.

5. Alcoholism is a permanent and irreversible condition.

6. Alcoholism is a progressive disease which follows an inexorable development through a distinct series of phases. For most alcoholics, alcoholism is a disease process which develops gradually over a ten to fifteen-year period. If the alcoholic's drinking is not arrested, this progression will lead to ultimate deterioration and death (Pattison, Sobell, & Sobell, 1977, pp. 2-3).

Emerging Concept.

The second framework of note is that proposed by Pattison, Sobell, & Sobell (1977) themselves in their book Emerging Concepts of Alcohol Dependence. This approach is important because it was the first attempt since Jellinek to describe alcohol problems based on empirical knowledge. The authors completed an exhaustive literature review and state that the following concepts emerged from the research:

1. Alcohol dependence summarizes a variety of syndromes defined by drinking patterns and the adverse physical, psychological, and/or social consequences of such drinking. These syndromes, jointly denoted as "alcohol dependence," are best considered as a serious health problem.

2. An individual's pattern of use of alcohol can be considered as lying on a continuum, ranging from non-pathological to severely pathological.

3. Any person who uses alcohol can develop a syndrome of alcohol dependence.

4. The development of alcohol problems follows variable patterns over time and does not necessarily proceed inexorably to severe fatal stages.

5. Recovery from alcohol dependence bears no necessary relation to abstinence, although such a concurrence is frequently the case.

6. The consumption of a small amount of alcohol by an individual once labeled as "alcoholic" does not initiate either physical dependence or a physiological need for more alcohol by that individual.

7. Continued drinking of large doses of alcohol over an extended period of time is likely to initiate a process of physical dependence which will eventually be manifested as an alcohol withdrawal syndrome.

8. The population of persons with alcohol problems is multivariant. Correspondingly, treatment services should be diverse, emphasizing the development of a variety of services, with determination of which treatments, delivered in which contexts, are most effective for which persons and which types of problems.

9. Alcohol problems are typically interrelated with other life problems, especially when alcohol dependence is long established.

10. An emphasis should be placed on dealing with alcohol problems in the environment in which they occur.

11. Treatment services should be designed to provide for a continuity of care throughout the lengthy process of recovery from alcohol problems. (pp. 4-5)

<u>The World Health Organization Approach (WHO)</u>.

The next framework of alcohol problems is that proposed by the

World Health Organization and deserves consideration for two reasons: (a) it is an approach sanctioned by an important and influential force in today's world, and (b) it represents a response to the varied global understandings of the problem and tries to overcome the confusing situation in this field. The World Health Organization (Edwards, Gross, Keller, Moser, & Room. 1977) stated that it was the purpose of its Group of Investigators on Criteria for Identifying and Classifying Disabilities related to Alcohol Consumption "to secure increased international understanding of, and agreement upon, the use of terms." (p. 6) The approach of the World Health Organization contains two major concepts. Following is a summary of these concepts.

1. Alcohol-Related Disability

a. An alcohol-related disability exists when there is an impairment in the physical, mental or social functioning of an individual, where alcohol has been found to be a significant factor in determining that disability.

b. The causal processes of an alcohol-related disability are complex and involve many interacting variables.

2. The Alcohol Dependence Syndrome

a. The Alcohol Dependence Syndrome is manifested by changes in an individual's behavioral, subjective, and psychobiological levels.

b. A leading symptom of alcohol dependence is impaired control over intake of alcohol.

c. The Alcohol Dependence Syndrome exists in degrees.

d. The Alcohol Dependence Syndrome appears in a variety of configurations as a result of personal and environmental factors.

e. The Alcohol Dependence Syndrome is one variety of alcohol-related disability.

f. The presence of the Alcohol Dependence Syndrome increases the likelihood of other alcohol-related disabilities occurring over time.

g. The degree of disability resulting from alcohol dependence is determined by the general context of health and ill-health.

h. Not all people manifesting alcohol-related disabilities are alcohol dependent, but they may be at increased risk of developing alcohol dependence.

i. The role of gross alcohol consumption in increasing the risk should therefore also be considered, in social and individual preventive measures. (Edwards, Gross, Keller, Moser, & Room. 1977, p. 17)

Elsewhere, Edwards and Gross describe the characteristics of the Alcohol Dependence Syndrome as follows:

1. Narrowing of the drinking repertoire.

2. Salience of drinking (the increasing importance of alcohol in the everyday life of the individual).

3. Subjective awareness of compulsion to drink. This comprised two elements: (a) a feeling of 'needing' to drink and (b) impaired control of drinking.

4. Increased tolerance of alcohol.

5. Repeated withdrawal symptoms.

6. Relief drinking.

7. Reinstatement after abstinence - the above syndrome. (Edwards, & Gross. 1976)

The Diagnostic and Statistical Manual of Mental Disorders (Third Edition) Approach.

The last approach is that adopted by the American Psychiatric Association in its Diagnostic and Statistical Manual of Mental Disorders (Third Edition) (1980) (DSM-III). This approach has significance as this manual is in use by psychiatrists and psychologists the world over for diagnosing and assessing mental health problems. The DSM-III divides the problematic use of substances or substance disorders into two major classifications, specifically substance abuse and substance dependence. Following is a brief description of each:

Substance abuse has three criteria to distinguish it from non-problematic substance use.

1. Pattern of Pathological Use. This pattern includes such things as intoxication throughout the day, failure to control intake or maintain abstinence, restriction of use to certain times of the day, continued use despite a serious physical disorder which is exacerbated by the continued use, need for daily use to maintain adequate functioning, and such things as blackouts and overdoses.

2. Impairment in Social or Occupational Functioning caused by the pattern of pathological use. This would include the failure to meet important social or occupational obligations, inappropriate expression of aggression, and repetitive legal difficulties resulting from the complications of an intoxicated state such as impaired driving, car accidents, or other criminal behaviour.

3. Duration of use must last for one month for the disturbance to be classified as abuse.

In DSM-III, substance dependence is distinguished from substance

abuse by the addition of physiological dependence which is evidenced by either tolerance or withdrawal. They are defined as follows:

1. Tolerance is defined as occurring when increased amounts of the substance are required to achieve the desired effect or the same amount of the substance produces a significantly reduced effect.

2. Withdrawal refers to the substance specific syndrome which follows the cessation or reduction of intake.

The DSM-III views this definition of substance dependence as valid for all substances except alcohol and cannabis. These two substances require the addition of social or occupational impairment from the use of the substance or a pattern of pathological substance use for the term dependence to be applied (pp. 163-179). For a summary comparison of the Emerging Framework, the WHO Framework and the DSM-III Framework, see Table 2 on page 61.

Four Frameworks Evaluated

The suitability of four approaches was evaluated using the characteristics of a good conceptual framework outlined in Chapter Two. For a summary of the following, see Table 3 on page 63.

Disease Concept.

In examining the disease concept of alcoholism, Pattison, Sobell, and Sobell (1977) completed a thorough, if not meticulous review of the literature. They found, without question, that the major tenets of the Disease Concept are without empirical base. Alcohol problems are not unitary in nature; alcoholics are not different from non-alcoholics. Alcohol problems are not always permanent, progressive, irreversible, or demonstrative of obsession, compulsion and loss of control. Although it is clear that the description of alcohol problems does apply

to some individuals with alcohol problems, it is equally clear that it does not apply to all or even the majority of those experiencing problems with alcohol. Thus, the Disease Concept fails on the first criteria in that it does not reflect accurately the facts of the real world.

Despite its shortcomings, the Disease Concept has gained acceptance with intervention practitioners, with those individuals whose alcohol problems are adequately described by the framework and with the lay public. These individuals are attracted to the Disease Concept by its simplicity and ease of understanding. Thus, on the second criteria the Disease Concept scores very well.

The Disease Concept fails to predict future events adequately. Of particular note is its belief in the irreversibility of drinking problems. Again, Pattison and the Sobell's (1977, 120-129) demonstrate that, in fact, a number of outcomes appear to have occurred with individuals who have not received any treatment, as well as those who have. For example, some alcoholics have demonstrated spontaneous remission of problems while continuing to drink alcohol. This failure to predict is not surprising considering the framework's failure on the first criteria.

The Disease Concept is often seen as providing excellent practical guidance to individuals with drinking problems. Since alcoholism is a disease, it is clear that individuals with the problem must recognize and accept and/or be convinced of their physical anomaly and of the need to remain permanently abstinent. Associated problems can then be addressed. This practical advice seems a logical and reasonable consequence of the framework and again, ease of understanding and

apparent ease of actualizing are attractive. Setting aside, for the moment, the inaccuracies fundamental to the model, it nevertheless has the ability to provide guidance.

It is clear that the Disease Concept is based almost completely on unproven assumptions. It originated that way, and since then its assumptions have, for all intents and purposes, been proven to be unsubstantiated. Thus, the framework performs poorly on another criteria.

Interestingly, although the major tenets of the Disease Concept have received little support from research, those who vehemently hold to the concept often claim that it has not been disproved. For example, when evidence is presented to indicate that the predictive nature of the framework has failed, the adherents argue that the particular individual was not a real alcoholic in the first place, despite the fact that the individual possessed all of the necessary characteristics. This circular thinking demonstrates that, in practice, the Disease Concept is not internally consistent and is not falsifiable. Thus, it fails two further criteria.

A good conceptual framework stimulates research and this is definitely true for the Disease Concept. The Disease Concept is probably the major reason that there ever was any funding provided for research of alcohol problems. Without the general acceptance of alcohol problems as a disease, there would likely have been little research to date on the problem. In addition, the continued controversy over the Disease Concept stimulated much research that resulted in its failure to be confirmed. At present, the Disease Concept is promoting little research, as other approaches have captured the interest of

researchers.

The Disease Concept offers little in the way of self-satisfaction. It is simplistic in its theorizing and in its application. Therefore, it fails to meet another criterion of a good conceptual-framework.

The Emerging Concept.

The conceptual framework of Pattison, Sobell and Sobell is the next approach evaluated. It was derived from extensive review of empirical research and much sound reasoning, and as such, it does reflect much more accurately the facts of the real world. In addition, it is a more broadly based approach, and by its nature is more inclusive and less specific, and therefore must be reflective of the way things actually are. Thus, it performs well on the first criterion.

It is certainly more complex than the disease approach. Its language is more specific and exact, and as a result, requires more skill to understand. The Emerging Concept is somewhat reactive in that it is a response to the errors of the Disease Concept. This reactionary posture might make the approach somewhat less understandable to those who are not aware of the background of the Disease Concept. Despite the more demanding nature of this framework, a reasonably competent person should still be able to understand it, and thus it performs well on this criterion.

The Emerging Concept has an ability to predict future events, as it was developed by reviewing empirical research. Its broadness predicts a variety of outcomes in relation to alcohol problems and thus, is more likely to be accurate than the more narrow approach of the Disease Concept. The Emerging Concept performs well in this area.

The Emerging Concept does not provide the specific and numerous

pieces of advice that the Disease Concept does. However, its form of guidance is perhaps more helpful in that it suggests a flexible approach to clients' problems. Thus, the Emerging Concept performs adequately in terms of providing guidance.

The Emerging Concept approach was developed out of an extensive review of the research on alcohol problems. As such, it is based on available empirical evidence and has few unsubstantiated assumptions. The tenets of the Emerging Concept are carefully constructed and demonstrate no inconsistencies. Thus, it has few unproven assumptions and demonstrates good internal consistency.

The Emerging Concept is falsifiable on two primary grounds. If it could be demonstrated that alcohol problems are unitary phenomena, then the central theme of the model would be disproved. If alcoholics and non-alcoholics could be demonstrated to be significantly different on relevant criteria, then the model would be disconfirmed. Since this is the case, this conceptual framework performs well on this criterion.

It is clear that the current research is focussed on understanding the different types of alcohol/drug problems and how to best respond to them. This seems consistent with the major tenets of the Emerging Concept, but it is difficult to assess whether this has been in response to this particular model, or whether it is in response to a more general direction in research. Since this aspect of the model's performance cannot be evaluated, it cannot be given an assessment of satisfactory performance.

The Emerging Concept is self-satisfying in that it seems a more reasonable approach to the study of human problems. That is, the focus on the individuality of clients and their problems is a more

credible approach than one which delineates hard and fast rules about human behaviour.

The World Health Organization (WHO) Approach.

The third approach for review is that of the World Health Organization. The WHO's concept of alcohol-related disabilities as described earlier is very similar to the position of Pattison, Sobell and Sobell. It states that alcohol problems manifest themselves in a variety of manners affecting the major life areas of an individual. Similar to the Emerging Concept, the WHO's approach has the same empirical support.

It is the other concept of the WHO approach, the Alcohol Dependence Syndrome, that remains in debate. Following the description of the syndrome by Edwards and Gross (1976), much research has followed. This presents a clear indication that the framework meets one criterion of a good conceptual framework. Much of this research has taken the form of operationalizing the concepts in the description into questionnaires and giving these questionnaires to individuals with known alcohol problems. Factor analysis of the results was used to establish the groupings of the operationalized questions. If, in fact, a significant grouping is observed and is best described by the operationalized questions, then support for the hypothesis that the syndrome exists was claimed.

This type of research has provided impressive support for the Alcohol Dependence Syndrome. Chick (1980) found at least limited support, noting that although not all of the characteristics were supported, most were. Skinner (1981b), in a factor analytic study of the Alcohol Use Inventory, found "empirical evidence for the Alcohol

Dependence Syndrome described by Edwards and Gross" (p. 63). Skinner & Allen followed this with another study in 1982 that again supported the existence of the Alcohol Dependence Syndrome. Chick, in 1986, reviewed his own and others research and concluded that "the Alcohol Dependence Syndrome does have a core that hangs together empirically though, as its authors originally behove us to do, it probably still needs refining" (p. 55). In another review of the literature, Edwards found evidence for internal validity, concurrent validity, and predictive validity, and concludes that "the syndrome formulation begins to look like a useful idea" (1986, p. 181). Hodgson and Stockwell (1986) conclude, from their own research and their reading of others, that there is ample support for the concept.

Despite this impressive support, the Alcohol Dependence Syndrome hypothesis is not without its critics. Thorley (1986) notes that when the research supporting the syndrome is reviewed, physical dependence is the major contributor to the loading on the factor analytic studies. This being the case, he asks why we would replace the concept of physical dependence which has widespread understanding, with a term of Alcohol Dependence Syndrome, which is much more vague and less universally understood (pp. 73-78). In addition, he notes that "Edwards has squarely nailed the syndrome's colours to the disease mast" (Thorley, p. 86) by suggesting pathological mechanisms, and because the international cultural and political environment, from which it was promulgated, will support a disease approach. This he sees as resulting in the continued emphasis on a disease approach to the problem. In turn, this suggests a denial of personal responsibility, and may result in the failure to adequately

treat the majority of individuals with alcohol problems.

Cameron (1986) argues that the syndrome of alcohol dependence "is an altogether more elusive, shifting, flexible structure than is alcoholism" (p. 59), and is conceived as a product of circular logic. As Cameron sees it, dependence is first defined as the presence of the narrowing of the drinking repertoire, increased salience of drinking, compulsion, increased tolerance, repeated withdrawal symptoms, relief drinking, and reinstatement after abstinence. Then the proponents of the Alcohol Dependence Syndrome argue that since those seven characteristics appear, dependence exists. What Cameron is saying in other words, is that the syndrome exists by definition not by demonstration. A tautology by any other name is circular. Shaw (1986, p. 37), in his impassioned yet coherent article, makes a similar argument. He adds that the correlation of the syndrome characteristics is not news, and that the Alcohol Dependence Syndrome is a superfluous concept when we already have clear understandings of those characteristics (Shaw, 1986 p. 38). He notes that, although there is evidence of predictive validity, this is the weakest form of validity, as there may be other extraneous causative factors that have been ignored.

When the criterion of stimulating research is applied, it can be seen that the Alcohol Dependence Syndrome scores very high. However, despite empirical support for the alcohol-related disabilities concept, the circularity of logic inherent in the concept of the Alcohol Dependence Syndrome, and its reliance on physical dependence symptoms, means that the supporting research may not be reflecting the implied causative nature of the syndrome. Therefore, it can not be

viewed as reflecting the facts of the real world.

Generally, the framework is easily understood and adequately satisfies that criterion. The conceptual framework does offer some practical guidance owing to the predictive validities it has generated. For example, it can be of assistance in selecting abstinent or non-abstinent treatment goals, or residential versus outpatient treatment, and performs satisfactorily against that criterion (Skinner & Horn, 1984).

The WHO framework is founded on the assumption that the characteristics of the Alcohol Dependence Syndrome are representative of a process, or processes, that result in the persistence of drinking in the face of negative consequences. This is central to the entire framework and makes the theory falsifiable, thus satisfying another criterion of a good conceptual framework. However, there is no evidence that these processes exist or even speculation as to what they might be. The presence of this major unsupported assumption makes the framework weaker. Thus, it does not satisfy the criterion of lack of unfounded assumptions. With so many unanswered questions around a central component of the framework this author finds little self-satisfaction in the framework. Thus, it fails another criterion.

The Diagnostic and Statistical Manual of Mental Disorders (Third Edition) Approach.

The last approach is the classification system of the DSM-III. It is difficult to know whether or not this approach is reflecting the facts of the real world as it is not based on empirical evidence. It was arrived at from the negotiated observations of clinicians from a variety of theoretical backgrounds, and therefore, fails to satisfy the first

criterion. The statement of the classification system is relatively understandable, but it fails to provide much guidance as the symptoms are simply presented. There is no indication of how many symptoms must be present, or the degree of severity required to make an assessment or diagnosis. On occasion, the DSM-III criteria are used to classify participants in a research study, but it has not generated a significant amount of empirical research, as it is essentially an arbitrary classification system (Edwards, 1986, p. 181) and therefore, possesses few predictive qualities. An approach which has no empirical support functions only on assumptions and thus, fails to meet another criterion. In addition, the tenets of the DSM-III framework are vague enough that falsifiability is difficult and internal consistency is not an issue. An approach with these characteristics fails to provide much self-satisfaction. Thus, the DSM-III fails to meet sufficient characteristics of a good conceptual framework and can be dismissed.

Conclusions

Can a Model of Alcohol Problems Serve as a Model for Drug Problems?

The foregoing evaluation has dealt exclusively with conceptual frameworks of alcohol problems. Yet the intent of this thesis is to propose an assessment battery that can be used for both alcohol and drug problems. Can one assume that a model of alcohol problems can suffice for other drug problems as well? McLellan, Luborsky, Woody, & O'Brien (1980), state that the traditional dichotomous classification between alcoholic and drug addict "is oversimplified, is not systematically related to treatment outcome, and does not correspond well with actual patterns of abuse" (p. 26). They note that today,

more and more individuals are presenting with problems with multiple drugs. Peele & Brodsky (1975), long ago made the case that alcohol and drug problems are not substance problems, but people problems. In addition, Skinner has used the Drug Abuse Screening Test (DAST) to assess drug misuse problems. This instrument parallels the Michigan Alcoholism Screening Test (MAST), which is used for the assessment of alcohol problems. He found it to be a reliable and useful instrument, suggesting that the negative consequence orientation, the same one used to define alcohol problems, is a valid one with drug problems as well. In summary, the frameworks of alcohol problems appear not to be specific to alcohol alone, and may also be applied to drug related problems. They are not dependent on factors specific to alcohol, other than it is a psychoactive substance. Further, evidence to date suggests that alcohol and other drug problems are closely related, and that a model of alcohol problems could suffice adequately as a model for other drug problems.

This Study's Conceptual Framework of Alcohol and Drug Problems.

The foregoing critique demonstrated that both the Disease Concept and the DSM-III classification system hold little value as conceptual frameworks around which to build a proposal for an assessment package (See Table 3, p. 63). The Emerging framework of Pattison, Sobell and Sobell, although somewhat reactionary, has good solid data to support its formulations. The framework of the World Health Organization also shows promise, and has similarities to the previous approach. The concept of alcohol dependence, although possessing some empirical support, is logically weak, and confusing as

to its real meaning. This lack of clarity would present difficulties when used in clinical settings and therefore, would not be useful as a central concept in this approach to alcohol/drug problems. This does not mean, however, that the instruments that have been created to assess the syndrome need be excluded from an assessment battery, as many of them have proven predictive validities that can be very useful in the treatment of alcohol/drug problems. The concept of alcohol-related disabilities of the World Health Organization is consistent with the approach of the Emerging Concept. Therefore, the following conceptual framework of alcohol/drug problems seems reasonably defensible as a base for the proposal of this assessment battery:

1. An alcohol/drug problem is considered to exist when an individual's use of a substance results in continued negative consequences. These negative consequences may be physical, psychological or social.

2. Patterns of use exist on a continuum from non-problematic use to use that results in very serious consequences.

3. Alcohol/drug problems have causal systems in which an interaction of psychological, biological or sociological factors may be of significance. The patterns of development will vary depending on the mix of these factors.

4. Individuals experiencing alcohol/drug problems are multivariant.

5. Treatment of alcohol/drug problems will be successful to the degree it is directed at these alcohol- drug-related disabilities whether they be causative or consequential, and to the degree that treatment responds to the uniqueness of the individual.

This five part conceptual framework shares ideas central to the Emerging Concept and the WHO approach. As such, it retains the best attributes of both, reflecting the facts of the real world by recognizing the variability of alcohol/drug problems. It remains easily understandable, internally consistent and offers guidance in dealing with the problem. It maintains the central theme of variable cause and variable manifestation, and if this were disproved, so would the whole approach. This approach is consistent with much of present day research, and as a synthesis it contains an appropriate amount of self-satisfaction.

What are the Variables That Need to be Assessed

Having developed a working conceptual framework, it was necessary to determine the variables that need to be assessed. From the outset, it was stated that the conceptual framework of alcohol/drug problems would determine the variables that needed to be assessed. Four authors, whose views are generally consistent with the conceptual framework developed in this paper, have also set out areas that they think need to be assessed in alcohol/drug troubled people (Glaser, 1984; McLellan, Luborsky, Woody, & Obrien, 1980; Pattison, 1985; Skinner, 1981a, 1984a). None provide sufficient empirical support, and only the briefest of logical support for their choices. Despite this, a summary of their recommendations follows which will serve as the basis for selection of the variables that require assessment.

Skinner

1. The reading ability of the client, to ensure that results of pencil and paper tests are not confounded.

2. The alcohol use of the client, past and present, in order to

determine if a problem with alcohol actually exists, or has existed.

3. The degree of alcohol dependence experienced by the individual.

4. The drug use of the client, past and present, in order to determine if a problem with drugs actually exists, or has existed.

5. The intellectual functioning of the client, as this may help determine appropriate therapeutic intervention.

6. Any cognitive deficits of the client, as this may influence test results, and also may suggest certain treatments or interventions.

7. Any neuro-psychological impairments, which again may affect test results, and also suggest certain treatments or interventions.

8. The client's medical condition, with an emphasis on alcohol-related problems.

9. The psychological needs of the client, which may be part of the causal system for the client, or may have been negatively impacted by the substance use.

10. Any psychopathology present in the client which, if unrecognized, may result in failure of the treatment for the alcohol/drug problem.

11. The marital and family areas, focussing on alcohol- drug-related problems.

12. The client's assertiveness, as this appears to often be related to alcohol or drug problems.

13. The social, legal, employment, and treatment history as it relates to substance use, as these demographics are often good predictors of treatment outcome, and may suggest certain modes of treatment, as opposed to others, as more or less appropriate.

14. The vocational interest of the client.

15. The treatment needs as stated by the client, so that appropriate responses can be made.

16. The behaviour of the client during the test, with the intent of discovering any factors that may affect test results.

17. The sex role orientation of the client.

18. The sources of test invalidity such as intoxication, withdrawal, neural impairment, social desirability, denial, acquiescence and carelessness. (1981a, 1984)

Glaser

Glaser proposes that the assessment of alcohol/drug troubled individuals address the following ten areas:

1. The medical area is important because of the variety of medical complications that can arise from the use of various substances.

2. Historical data will provide a picture of what has happened to the individual in life, and help to establish the conditions which may have made the individual susceptible to an alcohol or drug problem.

3. Drug Experiential is the amount and pattern of use. Glaser insists that this is important not only because of the associated health problems, but additionally because it can be predictive of treatment outcome.

4. The attitudinal area refers to a wide variety of topics such as attitudes toward time, drugs, the purpose of life and others. Glaser notes that there is no compelling research to indicate the use of this information.

5. The social interactional patterns of an individual's life influence many different kinds of the individual's behaviour, including

alcohol/drug use. He comments that there are few useable techniques to measure this area.

6. The vocational and recreational areas are important to assess, as Glaser believes that individuals who are experiencing satisfaction in these two areas will be more resistant to developing alcohol/drug problems.

7. The physiological and psychophysiological area "may prove to be superior to other kinds of variables in terms of prediction and differential assignment" (p. 87). Although he acknowledges that little is known about such variables as cortical evoked potentials, critical flicker fusion, rod and frame test, perceptual measures such as relative shape constancy, galvanic skin response, reaction timing, pursuit rotor performance, and possibly the physiological response to certain chemical substances such as alcohol, he believes that they could provide useful information in the future.

8. The pharmacological area refers to the individual's need for pharmacological interventions. Although he sees the need for increased precision in use of drugs with alcohol/drug troubled people, he provides no method of accomplishing this.

9. The psychological area should be assessed "for the sake of completeness" (p. 89). At the same, time Glaser cautions about the numerous problems with psychological testing, and maintains that healthy skepticism is required in its use.

10. Research must be part of assessment so that new instruments can be developed, and new areas requiring assessment can be recognized (1984).

McLellan, Luborsky, Woody, and O'Brien

These authors conclude that the focus of assessment should be the severity of problems which may have contributed to, or resulted from, chemical abuse. They list seven areas as the ones which commonly result in problems. They are: (a) Alcohol abuse; (b) Drug abuse;(c) medical; (d) psychological; (e) legal; (f) family/social; (g) employment/support (McLellan, Luborsky, Woody, & O'Brien 1980).

Pattison

Pattison offers another approach. He states that the areas of dysfunction can be organized into factors. The focus of assessment is to determine both the presence of the factor and the degree to which the factor contributes to the overall alcohol problem. He lists the following ten factors:

1. The alcohol consumption factor is the pattern of quantity, frequency and volume. He notes that eight different subtypes, based on alcohol consumption, have been identified.

2. Drinking behaviour involves the actual social behaviour of drinking. Here, the concern is with the presence of preoccupation, craving, attempts to control or avoid drinking, inability to control use, and continued use despite high costs in terms of physical, interpersonal, social, vocational, and psychological losses.

3. Psychic dependence is the dependence on the drug to achieve a particular desired psychic change. He suggests that this can be determined if the individual experiences personality or behaviour changes when using the drug.

4. Physical dependence refers to the presence of tolerance to a drug, or the experience of withdrawal symptoms in the absence of the

drug.

5. Physical consequences that result directly or indirectly from use. Organic mental disorders he considers direct results and organ system disorders as indirect effects.

6. Emotional consequences, such as the appearance of paranoid ideation, shame, guilt, anxiety attacks, panic attacks and many others.

7. Interpersonal consequences would include problems with family and friends.

8. Vocational consequences refers to the area of work performance and the individual's ability to not only maintain work, but also his/her vocational skills and abilities.

9. Informal social consequences include problems in the individual's social sphere, such as embarrassing social behaviour, offensive behaviour and others.

10. Legal consequences refers to formal social-legal responses such as arrest, court actions and the like.

Conclusions

These four positions are remarkable in that they present a fair degree of agreement and no major disagreements. Table 4, on page 64, provides a summary of the authors' positions.

Of the four views, some are more inclusive than others, but they tend to agree on the basics. They agree that the alcohol- drug-related disabilities need to be the central focus of assessment. They all feel that assessment must allow a determination of the individual's (a) alcohol and drug use and the associated patterns; (b) medical or health status; (c) psychological status, including psychopathology; (d) relationships, including marital, family, and social; (e) legal status; (f)

physical dependence or evidence of the Alcohol Dependence Syndrome and (g) employment. All of these areas need to be considered in terms of the present and past. These are certainly consistent with the conceptual framework adopted in this paper.

In addition to the above, Skinner (1981a) and McLellan, Luborsky, Woody, and O'Brien (1980) agree that client perceptions are important. McLellan, Luborsky, Woody, and O'Brien (1980) include the client perceptions of problem severity while Skinner includes the client's preferences for treatment mode. Both also address the need to assess the validity of the information provided. Finally, Skinner observes that demographics, especially an assessment of social stability, will be of value in decision making about appropriate treatment modes.

It can be concluded, in light of the above agreement and lack of serious disagreement among the authors, that the following variables need to be measured when assessing individuals for an alcohol or drug problem: (a) alcohol and drug use and the associated patterns; (b) medical or health status; (c) psychological status, including psychopathology; (d) relationships, including marital, family, and social; (e) legal status; (f) physical dependence, or evidence of the Alcohol Dependence Syndrome; (g) employment; (h) client perceptions of problem severity; (i) client preference of treatment mode and (j) validity of information gathered, which can be compromised by the presence of intoxication or withdrawal; the effects of long term use on memory; problems with reading if the assessment instrument requires the client to read; and the effects of systematic bias such as social desirability, denial, carelessness, and acquiescence.

What are the Best Instruments to Assess the Selected Areas?

Levels of Assessment

Skinner provides conceptual assistance in answering the above question with a discussion of the levels of assessment. No other author in the literature has written about the problem of establishing an assessment battery with the clarity and logical thought that Skinner has provided. He states that assessment can be done on three levels, specifically screening, basic, and specialized (1981a, p. 329). The purpose of screening is to determine whether alcohol or drug use is a problem. Basic assessment has as its focus the problems related to the alcohol/drug use. It provides an overall assessment of the problem areas, and flags areas such as psychiatric disturbances that will need further detailed assessment. Specialized assessment is a more detailed investigation of areas that are identified in the basic assessment, and should occur only when required.

This thesis is primarily concerned with the areas of screening and basic assessment. The area of specialized assessment may require the skills of other professionals such as psychologists or physicians, or it may be directed by the therapeutic approach of the individual counsellors. Therefore, specialized assessment needs to be directed by those professionals or by the individual counsellor, and not by a central generic approach. Given these parameters, the identification of appropriate assessment instruments can be initiated.

Applying the Inclusion Criteria

The search of the literature, and contact with various individuals in addiction units in Alberta, revealed 76 instruments that have been associated with the assessment of alcohol/drug troubled individuals.

These instruments included pencil and paper psychometric tests, computerized psychometric tests, structured interviews, and various other institution generated forms to be completed by client or counsellor. The task of narrowing this group of instruments (see Table 5, on page 65, for a summary of the tests that were excluded and the reason for exclusion) began by seeking evidence of instrument reliability. Twenty-two of the instruments collected had not had reliability studies done, or were not published, or were unavailable. Therefore, they were eliminated as potential instruments for the battery. Those instruments with available reliability evidence were initially considered for inclusion in the proposed battery. Evidence of reliability is paramount in any assessment instrument, for without this evidence, the information collected is without value.

The next step was to identify instruments that would provide an assessment of alcohol and drug use and their associated patterns. This revealed 50 instruments. Of these 50, 34 deal with initial screening. This means that their primary purpose is to identify whether alcohol or drug use is an actual problem for the client. Of these 34 screening instruments, four were found to be blood tests, or biochemical markers as they are often described. They are the glutmate oxalacetate (SGOT), the gamma-glutamyl transpeptidase (GGT), the high density lipoprotein (Hdl), and mean corpuscular volume (MCV). In recent years, the use of these four tests has generated a fair amount of research interest. The (SGOT) (Sanchez-Craig, Annis, Bornet, & MacDonald, 1984) has proven to be of little value. The Hdl and the MCV have fared somewhat better in their ability to identify alcoholics, demonstrating moderate sensitivity and good specificity (Skinner, Holt,

Schuller, Roy, & Israel, 1984). However, they have not performed as well as the GGT. The research (Bernadt, Mumford, & Murray, 1984; Evans, 1985; Feuerlein, Ringer, Kufner, & Anton, 1980; Garvin, Foy, & Alford, 1981; Lumeng, 1986; Monteiro & Masur, 1985; Sanchez-Craig et al. 1984; Schuckit, 1981; Trell, Kristenson, & Fex, 1984; Skinner, & Holt, 1983; Skinner et al. 1984; Watson, Mohs, Eskelson, Sampliner, & Hartman, 1986) demonstrates some agreement that GGT is useful in identifying people with serious alcohol problems. The test demonstrates high sensitivity with moderate specificity. However, the results of the test give only one piece of information, that is that the person has a problem with alcohol. In addition, this will include a large number of false positives. Considering the criteria established earlier, these biological markers should not be included in the battery. They do not add significant information that cannot be acquired by other means in a less invasive, cost efficient manner. As will be discussed later, pencil and paper tests can often provide adequate screening with fewer problems.

Another approach to the screening of alcohol/drug problems has been the use of a number of scales on the Minnesota Multiphasic Personality Inventory (MMPI). The scales are: (a) Drug abuse scale (DAS); (b) Heroin addiction scale (HE); (c) Hampton alcoholism scale (AL); (d) Holmes alcoholism scale (AM); (e) Hoyt & Sedlacek alcohol scale (AH); (f) Institutionalized Chronic Alcoholic Scale (ICAS); (g) Linden Alcoholism Scale (ALX); (h) MacAndrew Alcoholism Scale (MAC); (i) Rosenberg Composite Alcoholism Key (CAK). The one attractive feature of these scales is their low face validity. However, their utility is still somewhat in question (Holmes, Dungan, & Mclaughlin, 1982;

Kaminskas & Kahn, 1985; Snyder, Kline, & Podany, 1985). Holmes et al. (p. 661) note that five scales, the Hampton, Holmes, Hoyt-Sed., MacAndrew, and Rosenberg, suffer from conflicting validity studies, a failure to recognize that the heterogeneity of the alcoholic population, and the fact that the five scales only share three common MMPI items, despite the fact that they are supposed to be measuring the same thing. They conclude that "none of the alcoholism scales is accurate enough to warrant its use without supporting data from other sources" (p. 664). The MacAndrew is one scale for which off-scale administration might be acceptable, yet Jacobson cautions against its use because of its lack of underlying constructs (1983, p. 402). The other scales would require the administration of the entire MMPI. These tests fail to add any significant information to the battery, and further, they would require specialized personnel, such as a psychologist, to interpret. Therefore, they fail to meet significant criteria and the aforementioned scales of the MMPI will not be included in the battery.

Another group of screening instruments have the need for a medical environment as a common base. They were either developed for use in a medical environment, or require a physician to complete at least a component of the screening. The CAGE (Ewing, 1984) was developed in a hospital setting for use by physicians during a regular physical exam. Its name is an acronym referring to the four questions that comprise the test. The four questions are about cutting down, annoyance by criticism, guilty feelings, and eyeopeners. It has a high degree of sensitivity, but poor specificity, resulting in about 25% false positive identification (Bernadt, Mumford,& Murray, 1984). Despite its

ease of use, its performance is not adequate for the agency's needs. Used in the environment in which it was developed it could be a very useful tool to flag patients for further assessment.

Another brief and interesting instrument is a five question history of trauma scale. The instrument was developed for use in a medical setting, and offers only moderate sensitivity with very good specificity (Skinner, Holt, Schuller, Roy, & Israel, 1984). Again, this instrument would not add significant information to a potential battery, and would be of better use in the medical setting for which it was intended.

Three other instruments, the Alcohol Clinical Index (ACI) (Skinner & Holt, 1986; Skinner, Holt, Sheu, & Israel,1986), the Canterbury Alcoholism Screening Test (Elvy & Wells, 1984), and the Munich Alcoholism Test (MALT) (Feuerlein, Ringer, Kufner, & Antons, 1980; Skinner, Holt, & Israel, 1981) have all produced some promising results, but each must have a physician complete part of the instrument. Thus they do not meet the criterion of being useable by all counselling staff.

In addition, ten alcohol screening tests were found whose prime purpose is to determine the presence, and possibly the severity, of an alcohol problem. Their abilities to do this vary. The Clydebank Questionnaire (CBQ) (Saunders & Kershaw, 1980) performed poorly in its ability to detect known alcoholics and thus would be inappropriate for the potential assessment battery. Skinner and Allen (1982) recognized that the National Council on Alcoholism's Criteria for the Diagnosis of Alcoholism (NCA CRIT) was important, because it emphasized both biomedical and psychosocial factors. However, they

also point out that it leads to a unitary diagnosis of alcoholism and is therefore inconsistent with the conceptual framework adopted by this study. Further, Jacobson (1983) notes that the NCA CRIT is supported by little research, is derived from a disease perspective, tends to focus on the late stages of an alcohol problem, and has demonstrated unacceptable levels of false positives. Its performance to date would make it unacceptable for the proposed battery, and as well, its formulation would make it theoretically inconsistent with the conceptual framework developed in this paper.

One of the oldest and most studied screening instruments available today is the Michigan Alcoholism Screening Test (MAST). The MAST is a 25 question instrument, which can be completed by the client, or given as an interview. It focuses on a variety of negative consequences of alcohol use. The test has several derivatives such as the BMAST, SMAST, and SAAST. Jacobson (1983) notes that the MAST and its derivatives correlate fairly well with each other. Several authors (Jacobson, 1983; Magruder-Habib, Fraker, & Peterson, 1983; Skinner, Holt, & Israel, 1981; Skinner & Sheu, 1982) have pointed out the ease of use of the instrument and its very good reliability and acceptable validity. Others (Knox, 1982; Magruder-Habib, Harris, & Fraker, 1982; Saunders, & Kershaw, 1980;) have noted that the MAST has an unacceptable level of false positives. Magruder-Habib et al. (1982) proposed that this shortcoming was owing to the fact that the MAST does not distinguish between former or present alcoholics. This failure to distinguish the two groups is the result of using the word "ever" in the test questions, such as, "Have you ever felt guilty about your drinking?" Therefore the MAST would tend to identify as

alcoholics, those who had once had a problem with alcohol, but no longer do. To overcome this problem, these authors developed a solution in the form of the Veterans Alcoholism Screening Test (VAST). The VAST uses the same questions as the MAST and scores them in the same manner, but adds the following three time frames: in the last year, in the last 1-5 years, and more than five years ago. The instrument demonstrated acceptable reliability, and validity, and the authors concluded that it was superior to the MAST. The history of the success of the MAST, and the improvement that the VAST brought to the instrument would make the VAST worthy of consideration for inclusion in the proposed battery.

Four screening instruments remain, and all of them have been developed to measure the Alcohol Dependence Syndrome. They are The Severity of Alcohol Dependence Questionnaire (SADQ), The Alcohol Dependence Scale (ADS), The Edinburgh Alcohol Dependence Schedule (EADS), and The Short Alcohol Dependence Data Questionnaire (SADD).

The SADQ is a 20 item, self completion questionnaire which asks the client to focus upon a recent month of typical heavy drinking. The instrument has demonstrated very good reliability as well as evidence of both construct and concurrent validity (Stockwell, Murphy, & Hodgson, 1983).

The EADS is a structured interview schedule with 21 items. Good reliability has been demonstrated, and it shows some construct validity (Chick, 1980), but little else.

The SADD is a 15 item, forced choice self-report questionnaire. It is designed to measure subjective, behavioral, and psychobiological changes associated with alcohol dependence. Good reliability is in

evidence (Raistrick, Dunbar, & Davidson, 1983), and support in the form of construct, concurrent, and content validity is present (Davidson & Raistrick, 1986).

The ADS is a 25 item instrument that can be given in either interview or questionnaire format. It was developed from a factor analytic study of the Alcohol Use Inventory (Skinner, 1981b) and has demonstrated very good reliability and validity (Skinner & Allen, 1982). Considering the apparent similarity of performance of the three questionnaires, excluding the EADS, the choice of which instrument to use would seem difficult. However, the ADS stands out with significant advantages over the others. Scores on the ADS have been predictive of clinic attendance, amount consumed, liver disease, success at controlled drinking, and success at abstinence (Skinner & Allen, 1982; Skinner & Horn, 1984). The fact that the instrument has a published manual with instruction for interpretation, and the fact that studies were done on Canadian populations, makes it even more attractive.

Six instruments were found that provide a more detailed view of alcohol use of clients. Two of these six have been many years without research and have little to offer an assessment battery. The Essential-Reactive Alcoholism interview schedule (ERA) is a structured interview with 55 items. The instrument is based on a unitary view of alcohol problems and therefore, is inconsistent with the conceptual framework adopted here. Jacobson (1983) notes the lack of recent research and the distinct sexist tone in the questions. For all of the above reasons, this instrument is not suitable for the proposed battery. Jacobson (1983) discusses another instrument which is similar, in that it has not been the subject of research since 1973. The Mortimer-Filkens Test is

a 58 item, forced choice questionnaire and a 30 minute structured interview. The lack of recent psychometric support and limited research at its inception make it as undesirable instrument for the proposed battery.

Two other instruments of interest are the Inventory of Drinking Situations (IDS) and the Situational Confidence Questionnaire (SCQ) (Annis & Davis, in press). They are based on the work of Bandura's concept of self-efficacy. Both the IDS and the SCQ are 100 item, self-report questionnaires, also available in 42 item, short forms. The IDS is designed to assess situations in which the client drank heavily over the past year. The SCQ is designed to measure Bandura's concept of self-efficacy for alcohol-related situations. Although reliability and validity data were not available, this instrument might be of interest in a specialized assessment. However, its focus on a particular therapeutic construct of self-efficacy would make it inappropriate for the basic battery.

Two instruments remain that provide an assessment of alcohol use patterns. They are the Alcohol Use Inventory (AUI) and the Lifetime Drinking History (LDH). The AUI, in its most recent version, is a 228 item, self-report questionnaire, generating 24 scales related to the benefits, styles, consequences, and concerns of alcohol use. The test has demonstrated acceptable reliability and validity (Skinner & Allen, 1983; Wanberg, Horn, & Foster, 1977). Its multidimensional approach to alcohol problems is consistent with the conceptual framework of this paper. The detail of this instrument would make it appropriate for specialized assessment rather than a basic assessment and should be considered for that purpose. In addition, the test marketers require

that users have graduate level training, in order to use the test. This would make it unavailable to most of the agency's counselling staff. For both these reasons, the AUI will not be considered for inclusion in the battery.

The LDH is a structured interview, that investigates the individual's consumption patterns from the initiation of the individual's drinking, and takes about 20 minutes to administer The interview focuses on consumption levels, frequency of alcohol use, variability in consumption, types of beverages, life events that mark a change in drinking patterns, solitary versus social drinking, and the time of day alcohol is consumed (Skinner, 1984b). The instrument possesses good reliabilities and validities, and Skinner suggests that this detailed instrument would be a good instrument for use during specialized assessment (Skinner, 1982a).

In the literature search, only one instrument for the screening of drug problems was discovered. It was the Drug Abuse Screening Test. The 20 item, self-report questionnaire or interview instrument was designed by Skinner (1982b), fashioned after the MAST. It possesses excellent reliabilities and some concurrent validities. However, more work needs to be done to determine validity. In the absence of another superior instrument for the screening of drug problems the DAST should be included in the battery, until further research is completed.

The next area of concern is that of alcohol related disabilities. In the literature search, fourteen instruments were found that had been used to measure various areas of the individual's situation that would be included under alcohol-related disabilities. Of these fourteen, ten were psychometric instruments that require the skills of a psychologist

to administer and/or interpret and thus, did not meet the criteria. Three other instruments provided information related to specific therapeutic approaches, and so do not belong in a basic battery. However, there was one remaining instrument that was designed to assess problem severity related to both alcohol and drugs. The Addiction Severity Index (ASI) is a structured interview which provides an assessment of problem severity in seven areas. They are (a) medical condition, (b) employment, (c) drug use, (d) alcohol use, (e) illegal activity, (f) family relations and (g) psychiatric condition. The ASI is based on an understanding of alcohol and drug problems as multivariant (McLellan, Luborsky, Woody, & O'Brien, 1980) and is therefore consistent with the conceptual framework that this thesis has adopted. The ASI requires the interviewer to record 140 responses, and can be completed by an easily trained technician in 30 to 40 minutes. This means that it would certainly meet the criteria of time, while providing a significant amount of valuable information. The test provides for two scores: one, a subjective problem severity rating, and the other a composite score which is a mathematical estimate of problem status in each problem area. The ASI has been tested extensively across a variety of populations. Both concurrent and test-retest reliabilities were very high (McLellan, Luborsky, Woody, & O'Brien, 1980; McLellan, Luborsky, Cacciola, Griffith, Evans, Barr, & O'Brien, 1985). McLellan et al. (1985) also conducted thorough validity studies and found all of the scales to possess a high degree of validity. However, the authors discuss one area of weakness in the instrument, that is the family/social area.

The problem is twofold. The scale is based on the assumption

that functional relationships are conflict free. This would not appear to be valid with this population, or perhaps any group. In addition, the structured format seems to be less useable when confronted with an area that can have numerous and complex problems. The authors indicate that they have not been able to find an adequate instrument to replace this scale. The literature search for this thesis was also unable to find another suitable instrument to assess this area, for this population. The authors encourage the collection of additional information in this area.

In addition to providing information about alcohol-related disabilities, the ASI asks the client about his/her perception of the severity of the problem and the need for treatment in each area. It also requires the interviewer to judge whether the client has distorted the information given by misrepresentation, or by an inability to understand. Although subjective, the ASI does assist in measuring the confidence with which the assessment can be used. As noted earlier, the issues of social desirability, denial, carelessness and acquiescence need to be accounted for. Skinner recommended using the Basic Personality Inventory Denial Scale, The Personality Research Form (PRF) Social Desirability Scale, and The Personality Research Form (PRF) Infrequency Scale to address these areas (Skinner, 1984a). These scales are taken from two major personality inventories which require graduate level training to use, and there is no evidence to suggest that the scales can be administered in a reliable and valid manner outside of the complete inventory. This means that they can not be included in the proposed battery, as they require interpretation by a psychologist. The assessment that the ASI provides in relation to

the sources of invalidity will have to suffice at this point in time.

Two related areas requiring attention that were identified earlier, were the client's reading ability and the issue of whether the client was intoxicated or in withdrawal. The latter can be dealt with by use of a simple check list of the symptoms of intoxication and withdrawal. This can be created fairly simply, or can be found in a variety of sources such as the Assessment Handbook (Addiction Research Foundation, 1984).

The issue of reading ability is only of concern with pencil and paper instruments, and thus the screening instruments are the only ones to be concerned with. A satisfactory reading test would take more time to complete than the screening instruments, and thus would not be an efficient way of dealing with the problem. There are a number of ways of removing this variable from concern. First, the instruments could be given as an interview. Second, they could be put on tape and each client given a "walkman" type tape player and instructed how to complete the answer sheets. Third, clients could be given the option of doing a written test or using the taped test. These strategies would resolve the issue without creating increased time for assessment, or unnecessary embarrassment for some clients.

One final area that has not been addressed by any of the instruments thus far is the issue of client preference for treatment. Skinner (1984a) used The Top Five Treatment Goals Checklist, which was a list of the goals of various treatment programs written in clear and unambiguous language. Although no reliability or validity studies have been done on this checklist, it appears quite defensible. It seems reasonable to assume that a client who has clear input into treatment

selection will have more investment, and hopefully more success, than one who experiences treatment assignment as an external process. A Top Five Treatment Goals Checklist, based on Skinner's model, would have to be created for each community where assessment is occurring as it must reflect the services available in that community.

Chapter Three has reviewed the literature and proposed a conceptual framework of alcohol and drug problems, which will determine the nature of assessment of these problems. From that conceptual framework, a number of variables that need to be assessed were identified. Finally, it reviewed 76 instruments to find instruments that could assess these areas and thus be included in an assessment battery. The review found four possible instruments, the VAST, the ADS, the DAST, and the ASI, that could provide an overall assessment of the selected areas. Of the four instruments, the ADS, DAST, and ASI appear to provide the best overall assessment.

The next chapter will briefly discuss the proposed battery and suggest areas for further development.

CHAPTER FOUR

Discussion and Recommendations

Review

A major search and critical review of the literature related to the assessment of alcohol and drug problems was conducted with the intent (a) to provide background knowledge as rationale for a comprehensive assessment battery, and (b) to propose a comprehensive assessment battery of existing instruments, for use in a provincial addictions treatment agency in Alberta.

It was determined that to accomplish the above, four questions needed to be answered. The questions are: (a) What is an alcohol or drug problem? (b) What are the variables that need to be assessed? (c) What instruments will best assess the variables? and (d) What decisions can be made from the battery assembled?

In order to arrive at a satisfactory answer to the first question, four major conceptual frameworks relating to the field of alcohol and drug problems were reviewed. Each was examined to determine how well it fit the criteria of a good conceptual framework. From this review, the author developed a conceptual framework that represented a synthesis of the best aspects of the four approaches. The conceptual framework developed was determined to have five elements:

1. An alcohol/drug problem is considered to exist when an individual's use of a substance results in continued negative consequences. These negative consequences may be physical, psychological or social.

2. Patterns of use exist on a continuum from non-problematic use to use that results in very serious consequences.

3. Alcohol/drug problems have causal systems in which an interaction of psychological, biological or sociological factors may be of significance. The patterns of development vary depending on the mix of these factors.

4. Individuals experiencing alcohol/drug problems are multivariant.

5. Treatment of alcohol/drug problems will be successful to the degree that it is directed at these alcohol- drug-related disabilities, whether they be causative or consequential, and to the degree that treatment responds to the uniqueness of the individual.

Having determined this descriptive approach as the conceptual base, the second question was then addressed. In order to determine the variables that need assessment in alcohol/drug troubled people, the variables selected by four authors, whose approaches were found to be generally consistent with the givens adopted for this study, were reviewed. Agreement among the authors, on a particular variable, was the first criterion for including the variable. The degree to which the variable was consistent with the adopted conceptual framework was the final criterion for selection. Following is a list of the selected variables:

1. Alcohol and drug use and the associated patterns;
2. Medical or health issues;
3. Psychological status including psychopathology;
4. Relationships including marital, family, and social;
5. Legal issues;
6. Physical dependence or the Alcohol Dependence Syndrome;
7. Client perceptions of problem severity;

8. Client preference of treatment mode;

9. Validity of information gathered, which can be compromised by the presence of intoxication or withdrawal, the effects of long term use on memory, problems with reading, if the assessment instrument requires the client to read, and the effects of systematic bias, such as social desirability, denial, carelessness, and acquiescence.

Three levels of assessment were defined: screening, basic, and specialized. It was found that given an agency like AADAC, which employs counselling staff who operate from a variety of theoretical perspectives, it would be best to use a battery that provided for a generic or basic assessment that denoted the problem areas requiring treatment. Such a generic battery could then be used by all staff, no matter their therapeutic or theoretical approaches. Any further assessment required by a particular intervention approach would be considered specialized assessment, and would be the responsibility of the counsellor or, if necessary, other specialists.

The task of determining the best instruments to assess selected areas was accomplished by reviewing 76 instruments that have been used in the assessment of alcohol and drug troubled people. They were then evaluated against nine criteria. The two major reasons for ruling out instruments was that they either had no reliability support, or they were instruments that required training which AADAC counselling staff did not possess and could not readily acquire. Another small group of instruments were excluded because they were inappropriate for either screening or basic assessment, and would be more appropriate for specialized assessment. Others, which were essentially sound instruments, were excluded because another test provided more robust

information. Table 5 summarizes the instruments that were reviewed and excluded.

A Proposed Battery

Based on the review conducted, five instruments are proposed to form an assessment battery that will provide for both the screening of alcohol and drug problems, and a basic assessment tool for alcohol-drug-related disabilities. When necessary, specialized assessment will have to be directed by the counsellor performing treatment, or by other appropriate professionals.

The five instruments selected for the assessment battery are:

1. Intoxication/Withdrawal Checklist.
2. The Alcohol Dependency Scale (ADS).
3. The Drug Abuse Screening Test (DAST).
4. The Addiction Severity Index(ASI).
5. Top Five Treatment Goals Checklist.

Table 6, on page 71, summarizes which variable(s) is/are addressed by which instrument. These instruments provide the most reliable and valid screening and basic assessment available today, given the environment.

What Decisions Can Be Made From The Assessment Battery?

One major question remains unanswered. That is, "What decisions can be made from the results of the assessment battery?" This will be decided by reviewing the information that each instrument provides, and then determining the decisions that can result from that information.

The ADS and the DAST will provide the counsellor with enough information about the presence or absence of an alcohol or drug problem

to decide whether a complete assessment is required. In addition, the ADS will provide an indication of the severity of an alcohol problem, along with some indications, based on predictive research, about clinic attendance, amount consumed, the presence of associated health problems, the likelihood of success at controlled drinking, and success at abstinence (Skinner & Allen, 1982; Skinner & Horn, 1984).

The ASI provides information about the severity of problems, and the need for treatment in each of the six areas of medical status, employment/support, drug/alcohol use, legal status, family/social relationships, and psychological status. From this information, decisions about the focus of treatment, or which areas require further assessment, can be made. In addition, the ASI provides information about how the client sees his problems. This will help in making decisions about establishing priorities for a treatment plan.

The Top Five Treatment Goals Check List will provide the counsellor with an indication of the approaches the client would prefer to follow in dealing with his/her substance use problem. This will assist the counsellor in making decisions about referral, and about the approaches to take in his/her sessions with the client. See Table 7, on page 72, for a summary of the above.

A legitimate question, which might be asked, about the proposed battery is "Is the proposed battery the best assessment available or is it the best that can be achieved given the limited psychometric skills of the agency staff?" The view proposed is that the assessment battery is not diminished by the limited psychometric skills of the agency staff. First, of the instruments excluded because staff did not have the training to use them, few would have produced significant additional

information. Second, the basic assessment will identify the problem areas, and the intention is that clients will be referred to other professionals, when appropriate, for further assessment. Thus, the client should receive a complete and thorough assessment with this battery.

Availability of Instruments

The Intoxication/Withdrawal Checklist, recommended in Chapter Three, will have to be developed. One resource that could assist in this development is The Assessment Handbook: A Handbook on Procedures for Addictions Assessment/Referral Services (1984, pp A.7.1-A.7.3). The Five Top Treatment Goals is not a published instrument, and has to be developed for the environment in which it will be used. A sample of the instrument is available in Glaser et al (1984, Vol 3, pp 89-94).

The Alcohol Dependence Scale and The Drug Abuse Screening Test are available from The Addiction Research Foundation, 33 Russell Street Toronto, Ontario. The Addiction Severity Index is available from A. Thomas McLellan, Drug Dependence Treatment Service, Veterans Administration Hospital, University and Woodland Avenues, Philadelphia, Pennsylvania 19104.

Future Recommendations

The proposed battery will be very useful in the treatment of clients. However, it still has some problems, and work needs to continue on four fronts in order to improve this battery.

First, the battery retains a high face validity and thus, results can and will be intentionally distorted by clients who have some reason to do so. In most circumstances this should not be a problem. In

some cases, however, such as court referrals, the battery's high face validity will present a problem. Therefore, work needs to continue on the development of reliable, easily used instruments with low face validity.

As mentioned earlier, the family/social area of the ASI is not completely satisfactory. Further work is required to make the results in that area stronger and more useful.

Despite the fact that the ASI and the Five Top Treatment Goals Checklist seek client input, assessment remains very much a counsellor controlled process. Methods and instruments need to be developed to ensure that assessment is a mutual process between client and counsellor, with clients maintaining a clear sense of control over their own treatment.

Fourth, further work needs to be done to demonstrate the efficacy of assessment relative to the efficacy of addiction treatment. A problem with the research in this area has been the inadequate descriptions of client populations. The proposed assessment battery will provide better descriptions of client populations thereby assisting research about differential treatment.

The battery, as proposed, recognizes the limitations of the real world, and seeks to maximize the potential of assessment in that environment by using efficient, reliable, and useable instruments. Although good assessment cannot guarantee quality treatment, it is unlikely that quality treatment will occur without a good assessment.

TABLES

Table 1

Thesis Methodology

Question	Decision Criteria
1. What is an alcohol or drug problem? (Conceptual Framework)	- Factual. - Understandable. - Predicts future events. - Offers guidance. - Internally consistent. - Few assumptions. - Falsifiable. - Stimulates research. - Self Satisfying.
2. What variables need to be assessed?	- Review variables selected by researchers whose position is consistent with chosen conceptual framework. - Select variables that are consistent with the conceptual framework chosen.
3. What are the best instruments to assess the selected variables?	AADAC'S CRITERIA - Contributes to treatment planning. - Useable by all counselling staff. - One to two hour time frame for administration, scoring and interpretation. SKINNER'S CRITERIA - Theoretical relevance to treatment. - Cost-effective relative to other measures of same construct. - Adequate reliability. - Non-redundant. - Free from response biases. - Predictive validity.
4. What decisions can be made from the battery?	- Review information each instrument provides. - Decide what decisions can logically flow from this information.

Table 2

Comparing Three Frameworks

	Emerging	WHO	DSM-III
Type of Framework	Descriptive	Descriptive	Symptomatic
Definition of Problem	Focuses on negative consequences in physical, psychological and social areas	Focuses on negative consequences in physical, psychological and social areas and the presence of the Alcohol Dependence Syndrome	Focuses on pattern of use, negative consequences, and duration of symptoms
Description of Alcohol Problem	Views alcohol problems as appearing in a highly variable manner	Views alcohol problems as appearing in a variable manner with specific description of the Alcohol Dependence Syndrome	Views alcohol problems as appearing in a relatively specific manner
Physical Dependence	Unrelated to the presence of an alcohol problem	Is one of the characteristics of the Alcohol Dependence Syndrome, but does not need to be present for syndrome to exist	Must be present for substance dependence to be present
Views alcohol Problems as related to life problems	Yes	Yes	Does not address
Environment is seen as important variable in treatment	Yes	Yes	Does not address

Table 2

Comparing Three Frameworks

	Emerging	WHO	DSM-III
Treatment should focus on the individual needs of the client	Yes	Yes	Does not address
Causes of Alcohol Problems	Multivariant and complex interaction of factors	Multivariant and complex interaction of factors	Does not address

Table 3

Analysis of Conceptual Frameworks

		Disease	Emergent	WHO	DSM-III	Hunter
1.	Factual	-	x	-	-	x
2.	Understandable	x	x	x	x	x
3.	Predictive	-	x	x	-	x
4.	Guidance	x	x	x	-	x
5.	Few Assumptions	-	x	-	-	x
6.	Internally Consistent	-	x	-	-	x
7.	Falsifiable	-	x	x	-	x
8.	Stimulates Research	-	-	x	-	-
9.	Self-Satisfying	-	x	-	-	x

Note: An "x" means the framework satisfies the criteria and an "-" means that the framework does not satisfy the criteria.

Table 4

The Variables of Assessment: Four Authors Compared

	Skinner	Glaser	McLellan	Pattison
Alcohol Dependence Syndrome	x	-	-	-
Alcohol Use	x	x	x	x
Assertiveness	x	-	-	-
Attitudinal	-	x	-	-
Client Stated Treatment Needs	x	-	-	-
Client View of Problem	-	-	x	-
Cognitive Deficits	x	-	-	-
Demographics	x	x	-	-
Drug Use	x	x	-	-
Employment/Vocational	x	x	x	x
Intellectual Functioning	x	-	-	-
Legal	x	-	x	x
Medical Status	x	x	x	x
Neuro-Psych Impairment	x	-	-	-
Pattern of Use	x	x	-	x
Pharmacological	-	x	-	-
Physical Dependence	-	-	-	x
Physiological	-	x	-	-
Psychological Dependence	-	-	-	x
Psychological Needs	x	x	-	-
Psychopathology	x	-	x	-
Psychophysiological	-	x	-	-
Recreation	-	x	-	x
Reltnshps-Fam/Marital	x	-	x	x
Reltnshps-Social	x	-	x	x
Test Invalidity Factors	x	-	x	-
Treatment History	x	-	-	-

Note: An "x" means the author deemed this variable important to assess and an "-" means the author did not identify this variable.

Table 5

Summary of Instruments Excluded and the Reason for Exclusion

Instrument	Reason for Exclusion
1. A Structured Addictions Assessment Interview for Selecting Treatment (ASIST)	-No Reliability Support
2. AADAC Assessment Form	-No Reliability Support
3. AADAC Recovery Centre - Client Assessment/ Nursing History Form	-No Reliability Support
4. Alcohol Use Inventory (AUI)	-Not useable by counselling staff; if required, belongs in specialized assessment
5. Alcohol/Substance Abuse Patient Biographical Questionnaire-New Version	-No Reliability Support
6. Alcohol/Substance Abuse Patient Biographical Questionnaire-Old Version	-No Reliability Support
7. Assessment Form Alcoholism Foundation of Manitoba	-No Reliability Support
8. Basic Personality Inventory Denial Scale	-Not useable by counselling staff; if required, belongs in specialized assessment
9. Bender Gestalt	-Not useable by counselling staff; if required, belongs in specialized assessment
10. Benton Visual Retention Test	-Not useable by counselling staff; if required, belongs in specialized assessment
11. Bexley-Maudsley Screening & BM Category Sorting Test.	-Not useable by counselling staff; if required, belongs in specialized assessment
12. Brief Medical History	-No Reliability Support
13. Brief Michigan Alcoholism Screening Test - BMAST	-Another screening instrument provides better information

Table 5

Summary of Instruments Excluded and the Reason for Exclusion

Instrument	Reason for Exclusion
14. CAGE	-Developed for patients in medical environment; not applicable to population being served
15. Changes in Past Year	-No Reliability Support
16. Clarke-WAIS Vocabulary	-Not useable by counselling staff; if required, belongs in specialized assessment
17. Client Information Form	-No Reliability Support
18. Community Older Persons Alcohol Project: Assessment Form	-No Reliability Support
19. Comprehensive Drinker Profile	-No Reliability Support
20. Coping Strategies Questionnaire	-No Reliability Support
21. Drug Abuse Reporting Programme Admission Record (DARP)	-Not useable by counselling staff; if required, belongs in specialized assessment
22. Drug Abuse Scale (DAS) MMPI Scale	-Not useable by counselling staff
23. DSM-III	-No Reliability Support
24. Employment Readiness Scale (ERS)	-No Reliability Support
25. Essential-Reactive Alcoholism Dimension Interview	-Inconsistent with the given conceptual framework
26. Family Conflict Scale	-No Reliability Support
27. Family History Drinking Questionnaire	-No Reliability Support
28. Feighner Criteria	-Not useable by counselling staff; if required, belongs in specialized assessment
29. Five-Question Trauma Scale	-Developed for patients in medical environment; not applicable to population being served

Table 5

Summary of Instruments Excluded and the Reason for Exclusion

Instrument	Reason for Exclusion
30. Gamma-Glutamyl Transpeptidase (GGT)	-Lab test not useable by counselling staff -Not cost effective screening measure
31. Glutmate Oxalacetate (SGOT)	-Lab test not useable by counselling staff -Not cost effective screening measure
32. Hampton Alcoholism Scale (AL) MMPI Scale	-Not useable by counselling staff
33. Heroin Addiction Scale (HE) MMPI Scale	-Not useable by counselling staff
34. High Density Lipoprotein (Hdl)	-Lab test not useable by counselling staff -Not cost effective screening measure
35. Holmes, Alcoholism Scale (AM) MMPI Scale	-Not useable by counselling staff
36. Hooper Visual Organization Test	-Not useable by counselling staff; if required, belongs in specialized assessment
37. Hoyt & Sedlacek Alcohol Scale (AH) MMPI Scale	-Not useable by counselling staff
38. Institutionalized Chronic Alcoholic Scale (ICAS) MMPI Scale	-Not useable by counselling staff
39. Inventory of Drinking Situations (IDS)	-Developed from a particular therapeutic model and might be appropriate for specialized assessment
40. Lifetime Drinking History (LDH)	-appropriate test for specialized assessment
41. Linden Alcoholism Scale (ALX)MMPI Scale MMPI Scale	-Not useable by counselling staff
42. MacAndrew Alcoholism Scale (MAC) MMPI Scale	-Not theoretically relevant

Table 5

Summary of Instruments Excluded and the Reason for Exclusion

Instrument	Reason for Exclusion
43. Marital Satisfaction Scale	-No Reliability Support
44. Mean Corpuscular Volume (MCV)	-Lab test not useable by counselling staff -Not cost effective screening measure
45. Michigan Alcoholism Screening Test - MAST	-Another screening instrument provides better information
46. Mortimer-Filkins Test	-Lacks useable information because of lack of adequate validity studies
47. Munich Alcoholism Test - MALT	-Requires physician to complete part of assessment; not useable by counselling staff
48. Rathus Assertiveness	-Based on a particular therapeutic model and might be appropriate for specialized assessment
49. Raven's Progressive Matrices	-Not useable by counselling staff; if required, belongs in specialized assessment
50. Renard Diagnostic Interview (RDI)	-Not useable by counselling staff; if required, belongs in specialized assessment
51. Rosenberg Composite Alcoholism Key (CAK) MMPI Scale	-Not useable by counselling staff
52. Self Administered Alcoholism Screening Test - SAAST	-Another screening instrument provides better information
53. Severity of Alcohol Dependence Questionnaire - SADQ	-Another screening instrument provides better information
54. Shipley Institute of Living Scale	-Not useable by counselling staff; if required, belongs in specialized assessment
55. Short Michigan Alcoholism Screening Test - SMAST	-Another screening instrument provides better information

Table 5

Summary of Instruments Excluded and the Reason for Exclusion

Instrument	Reason for Exclusion
56. Situational Confidence Questionnaire (SCQ)	-Developed from a particular therapeutic model and might be appropriate for specialized assessment
57. Social Stability Index	-No Reliability Support
58. State Anxiety Scale	-No Reliability Support
59. Substance Use Questionnaire - SUQ	-No Reliability Support
60. The Alcohol Clinical Index (ACI)	-Requires physician to complete part of assessment; not useable by counselling staff
61. The Canterbury Alcoholism Screening Test (CAST)	-Requires physician to complete part of assessment; not useable by counselling staff
62. The Clydebank Questionnaire (CBQ)	-Another screening instrument provides better information
63. The Edinburgh Alcohol Dependence Schedule	-Another screening instrument provides better information
64. The National Council on Alcoholism's Criteria for the Diagnosis of Alcoholism (NCA CRIT)	-No Reliability Support
65. The Personality Research Form (PRF) Social Desirability Scale	-Not useable by counselling staff; if required, belongs in specialized assessment
66. The Personality Research Form (PRF) Infrequency Scale	-Not useable by counselling staff; if required, belongs in specialized assessment
67. The Short Alcohol Dependence Data Questionnaire (SADD)	-Another screening instrument provides better information
68. The Substance Abuse Problem Checklist (SAPC)	-No Reliability Support

Table 5

Summary of Instruments Excluded and the Reason for Exclusion

Instrument	Reason for Exclusion
69. Veterans Alcoholism Screening Test (VAST)	-Another screening instrument provides better information
70. WAIS Digit Symbols	-Not useable by counselling staff; if required, belongs in specialized assessment
71. Wide Range Achievement Test (WRAT) Reading Ability Scale	-No known norms for this population; more of a word recognition test and thus not appropriate

Table 6

List of Variables Requiring Assessment and The Instruments Providing the Assessment

	Variable	Associated Instrument
1.	Alcohol and drug use and the associated patterns	ADS, DAST, ASI
2.	Medical or health issues	ADS will give some indication and the ASI will flag more clearly
3.	Psychological including psychopathology	ASI provides for basic screening in this area.
4.	Employment	ASI
5.	Relationships including marital, family, and social	ASI provides for some assessment in this area. However it is not completely adequate and further work must be done on assessing this variable
6.	Legal issues	ASI
7.	Physical dependence or the Alcohol Dependence Syndrome.	ADS, DAST, ASI
8.	Client perceptions of problem severity	ASI
9.	Client preference of treatment mode.	Five Top Treatment Goals Checklist
10.	Validity of information gathered	Intoxication/Withdrawal Checklist, ASI Confidence Scale. No adequate instruments for assessing reading ability. Can be dealt with by giving the ADS and the DAST as an interview or giving the Test on tape.

Table 7

Decisions From The Assessment Battery

Instrument	Info Provided	Possible Decisions
ADS	Screens presence of alcohol problem	To complete a more detailed assessment
		Decide to address Alcohol Abuse during treatment
ADS	Indicates the degree of severity of alcohol problem	Increased severity can be an indicator for inpatient treatment
ADS	Predicts Clinic Attendance	Strategize to encourage return of client
ADS	Predicts associated health problems	To refer for physical exam
ADS	Predicts success at controlled or abstinent drinking goals	Assist in the decision of appropriate drinking goal
DAST	Screens presence of drug abuse problem	Decide whether to proceed with more complete assessment
		Decide to address drug abuse in treatment
ASI	Presence and severity of alcohol problem	Decision to treat alcohol problem and indications about inpatient or outpatient approaches
ASI	Severity of drug problem	Decision to treat drug problem and indications about inpatient or outpatient approaches
ASI	Severity of problems in the Employment-Support area	Decision to provide treatment or refer for treatment in this area
ASI	Severity of legal problems	Decision about areas needing to be dealt with or areas that may

Table 7

Decisions From The Assessment Battery

Instrument	Info Provided	Possible Decisions
ASI	Severity of problems in the fam/social area	Decision about what parts of this area need to be addressed
ASI	Severity of Psychological Problems, presence of psychopathology or suicide potential	Decision about referral for further assessment, or institutionalization
ASI	Client perception of problem severity	Decisions about treatment priorities and motivation strategies
ASI	Confidence in information presented	Decisions about report writing, and about resources expended
Top Five Treatment Goals	Client preferences for treatment	Assist in decisions about treatment priority and mode

REFERENCES

Addiction Research Foundation. (1984). Assessment Handbook: A Handbook on Procedures for Addictions Assessment/Referral Services. Toronto: Author.

American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). Washington DC: Author.

Annis, H. M. & Davis, C. S. (in press). Alcohol dependence: Cognitive assessment procedures. In A. Marlatt & D. Donovan (Eds.), Assessment of Addictive Behaviors. New York: Guilford Press.

Bell, R. G. (1978a). Classification and symptomatology. In L. A. Phillips, G. R. Ramsey, L. Blumenthal, & P. Crawshaw (Eds.), Core Knowledge in the Drug Field Vol. 7. Ottawa: Non-Medical Use of Drugs Directorate.

Bell, R. G. (1978b). Some definitions and parameters of addictions. In L. A. Phillips, G. R. Ramsey, L. Blumenthal, & P. Crawshaw (Eds.), Core Knowledge in the Drug Field Vol. 6. Ottawa: Non-Medical Use of Drugs Directorate.

Bernadt, M. W., Mumford, J., & Murray, R. M. (1984). A discriminant-function analysis of screening tests for excessive drinking and alcoholism. Journal of Studies on Alcohol, 45(1), 81-86.

Cameron, D. (1986). Why alcohol dependence - Why now? In Heather, N., Robertson, I., & Davies, P. (Eds.), The Misuse of Alcohol: Crucial Issues in Dependence Treatment & Prevention (pp. 59-71). Washington Square, NY: New York University Press.

Chick, J. (1980). Is there a unidimensional alcohol dependence syndrome? British Journal of Addiction, 75, 265-280.

Chick, J. (1986). Some requirements of an alcohol dependence syndrome. In N. Heather, I. Robertson, & P. Davies, (Eds.), The Misuse of Alcohol: Crucial Issues in Dependence Treatment & Prevention (pp. 45-58). Washington Square, NY: New York University Press.

Crawshaw, P. (1978). Historical aspects and current developments. In L. A. Phillips, G. R. Ramsey, L. Blumenthal, & P. Crawshaw (Eds.), Core Knowledge in the Drug Field Vol. 1. Ottawa: Non-Medical Use of Drugs Directorate.

Davidson, R., & Raistrick, D. (1986). The validity of the short alcohol dependence data (SADD) questionnaire: A short self-report questionnaire for the assessment of alcohol dependence. British Journal of Addiction, 81, 217-222.

Edwards, G. (1986). The alcohol dependence syndrome: A concept as stimulus to enquiry. British Journal of Addiction, 81, 171- 183.

Edwards, G., & Gross, M. M. (1976). Alcohol dependence: Provisional description of a clinical syndrome. British Medical Journal, 1, 1058-1061.

Edwards, G., Gross, M. M., Keller, M., Moser, J., & R. Room (1977). Alcohol-Related Disabilities. Geneva: WHO offset publication No. 32.

Elvy, G. A., & Wells, J. E. (1984). The Canterbury alcoholism screening test (CAST): A detection instrument for use with hospitalized patients. New Zealand Medical Journal, 97(750), 111-115.

Evans, S. R. (1985). Alcohol intake and liver function tests. Reply. Annals of Clinical Biochemistry, 22, 104-105.

Ewing, J. A. (1984). Detecting alcoholism: The CAGE questionnaire. Journal of the American Medical Association, 252(14), 1905-1907.

Feuerlein, W., Ringer, C., Kufner, H., & Antons, K. (1980). Diagnosis of alcoholism: The Munich alcoholism test (MALT). In M. Galant (Ed.), Currents in Alcoholism (Vol. 2, pp. 137-147). New York: Grune, Stratton.

Garvin, R. B., Foy, D. W., & Alford, G. S. (1981). A critical examination of gamma-glutamyl transpeptidase as a biochemical marker for alcohol abuse. Addictive Behaviors, 6, 377-383.

Glaser, F. B. (1980). Anybody got a match? Treatment research and the matching hypothesis. In Edwards, G., & Grant M. (Eds.). Alcoholism Treatment in Transition (pp. 178-196). London: Croom Helm.

Glaser, F. B. (1984). The nature and utility of assessment. In F. B. Glaser, H. M. Annis, H. A. Skinner, S. Pearlman, R. L. Segal, B. Sisson, A. C. Ogborne, E. Bohnen, P. Gazda, & T. Zimmerman (Eds.), A System of Health Care Delivery Vol. 2. Primary Care, Assessment (pp. 73-106). Toronto: Addiction Research Foundation.

Glaser, F. B., Annis, H. M., Skinner, H. A., Pearlman, S., Segal, R. L., Sisson, B., Ogborne, A. C., Bohnen, E., Gazda, P., & Zimmerman T. (Eds.). (1984). A System of Health Care Delivery (Vols. 1-3). Toronto: Addiction Research Foundation.

Hodgson, R., & Stockwell, T. (1986). The theoretical and empirical basis of the alcohol dependence model: A social learning perspective. In N. Heather, J. Robertson, & P. Davies, (Eds.), The Misuse of Alcohol: Crucial Issues in Dependence Treatment &

Prevention (pp. 17-34). Washington Square, NY: New York University Press.

Holmes, C. B., Dungan, D. S., & Mclaughlin, T. P. (1982). Validity of five MMPI alcoholism scales. Journal of Clinical Psychology, 38(3), 661-664.

Jacobson, G. R. (1983). Detection, assessment, and diagnosis of alcoholism: Current techniques. In M. Galanter (Ed.), Recent developments in alcoholism (Vol. 1, pp. 377-413). New York: Plenum Press.

Jellinek, E. M. (1952). Phases of alcohol addiction. Quarterly Journal of Studies on Alcohol, 13, 673-684.

Jellinek, E. M. (1960). The disease concept of alcoholism. New Haven: Hillhouse Press.

Johnson, V. E. (1980). I'll quit tomorrow (rev. ed.). San Francisco: Harper & Row.

Kaminskas, J. A., & Kahn, M. W. (1985). Maximizing scarce service resources in a rural mental health clinic: Should alcoholics be treated in separate programs? The International Journal of the Addictions, 20(8), 1257-1271.

Knox, W. J. (1982). Diagnostic psychological testing. In E. Pattison & E. Kaufman (Eds.), Encyclopedic handbook of alcoholism (pp. 55-63). New York: Gardner Press.

Lumeng, L. (1986). New diagnostic markers of alcohol abuse. American Association for the Study of Liver Diseases, 6(4), 742-745.

Magruder-Habib, K., Fraker, G. G., & Peterson, C. L. (1983). Correspondence of clinicians' judgments with the Michigan alcoholism screening test in determining alcoholism in veterans

administration outpatients. Journal of Studies on Alcohol, 44(5), 872-884.

Magruder-Habib, K., Harris, K. E., & Fraker, G. G. (1982). Validation of the veterans alcoholism screening test. Journal of Studies on Alcohol, 43(9), 910-926.

Mann, M. (1981). New primer on alcoholism. New York: Holt, Rhinehart and Winston.

McLellan, A. T., Luborsky, L., Cacciola, J., Griffith, J., Evans, F., Barr, H. L., & O'Brien, C. P. (1985). New data from the addiction severity index: Reliability and validity in three centers. The Journal of Nervous and Mental Disease, 173(7), 412-423.

McLellan, A. T., Luborsky, L., Woody, G. E., & O'Brien, C. P. (1980). An improved diagnostic evaluation instrument for substance abuse patients: The addiction severity index. The Journal of Nervous and Mental Disease, 168(1), 26-33.

McLellan, A. T., Woody, G. E.,Luborsky, L., O'Brien, C. P., & Druley, K. A. (1983) Increased effectiveness of substance abuse treatment: A prospective study of patient-treatment matching. The Journal of Nervous and Mental Disease, 171(10), 597-605.

Monteiro, M. G., & Masur, J. (1985). Diagnostic of alcoholism: How useful is the combination of gamma glutamyl transferase with different bio-chemical markers? Drug and Alcohol Dependence, 16, 31-37.

Pattison, E. M. (1985). The selection of treatment modalities for the alcoholic patient. In J. H. Mendlson, & N. K. Mello (Eds.), The

Pattison, E. M., Sobell, M. B., & Sobell L. C. (1977). Emerging concepts of alcohol dependence. New York: Springer Publishing.

Peele, S., & Brodsky, A. (1975). Love and Addiction. New York: Taplinger Publishing Company.

Raistrick, D. S., Dunbar, G., & Davidson, R. J. (1983). Development of a questionnaire to measure alcohol dependence. British Journal of Addiction, 78, 89-95.

Sanchez-Craig, M., Annis, H. M., Bornet, A. R., & MacDonald, K. R. (1984). Random assignment to abstinence and controlled drinking: Evaluation of a cognitive-behavioral program for problem drinkers. Journal of Consulting and Clinical Psychology, 52(3), 390-403.

Saunders, W. M., & Kershaw, P. W. (1980). Screening tests for alcoholism - Findings from a community study. British Journal of Addictions, 75, 37-41.

Schuckit, M. A. (1981, May). Gamma glutamyl transferase and the diagnosis of alcoholism. Advances in Alcoholism, 2(5).

Shaw, S. (1986). The disease concept of dependence. In Heather, N., Robertson, I., & Davies, P. (Eds.), The Misuse of Alcohol: Crucial Issues in Dependence Treatment & Prevention (pp. 35-44). Washington Square, NY: New York University Press.

Skinner, H. A. (1981a). Assessment of alcohol problems: Basic principles, critical issues, and future trends. In Y. Israel, F. B. Glaser, H. Kalant, R. E. Popham, W. Schmidt, & R. G. Smart (Eds.), Research Advances in Alcohol and Drug Problems Vol. 6 (pp. [illegible]). New York: Plenum Press.

measurement and correlates. British Journal of Addictions, 76, 63-76.

Skinner, H. A. (1982a). Development and validation of a lifetime alcohol consumption assessment procedure. Unpublished manuscript.

Skinner, H. A. (1982b). The drug abuse screening test. Addictive Behaviors, 7, 363-371.

Skinner, H. A. (1984a). A comprehensive assessment program. In F. B. Glaser, H. M. Annis, H. A. Skinner, S. Pearlman, R. L. Segal, B. Sisson, A. C. Ogborne, E. Bohnen, P. Gazda, & T. Zimmerman (Eds.), A System of Health Care Delivery Vol. 2. Primary Care, Assessment (pp. 146-176). Toronto: Addiction Research Foundation.

Skinner, H. A. (1984b). Instruments for assessing alcohol and drug problems. Bulletin of the Society of Psychologists in Addictive Behaviors, 3, 21-33.

Skinner, H. A., & Allen, B. A. (1982). Alcohol dependence syndrome: Measurement and validation. Journal of Abnormal Psychology, 91(3), 199-209.

Skinner, H. A., & Allen, B. A. (1983). Differential assessment of alcoholism: Evaluation of the alcohol use inventory. Journal of Studies on Alcohol, 44(5), 852-862.

Skinner, H. A., & Holt, S. (1983). Early intervention for alcohol problems. Journal of the Royal College of General Practitioners, 33, 787-791.

Skinner, H. A., & Holt, S. (1986). The alcohol clinical index:

Skinner, H. A., & Horn, J. L. (1984). Alcohol Dependence Scale User's Guide. Toronto: Addiction Research Foundation.

Skinner, H. A., & Sheu, W. J. (1982). Reliability of alcohol use indices: The lifetime drinking history and the MAST. Journal of Studies on Alcohol, 43(11), 1157-1170.

Skinner, H. A., Holt, S., & Israel, Y. (1981). Early identification of alcohol abuse: 1. Critical issues and psychosocial indicators for a composite index. CMA Journal, 124, 1141-1152.

Skinner, H. A., Holt, S., Schuller, R., Roy, J., & Israel, Y. (1984). Identification of alcohol abuse using laboratory tests and a history of trauma. Annals of Internal Medicine, 101(6), 847-851.

Skinner, H. A., Holt, S., Sheu, W. J., & Israel, Y. (1986). Clinical versus laboratory detection of alcohol abuse: the alcohol clinical index. British Medical Journal, 292, 1703- 1708.

Snyder, D. K., Kline, R. B., & Podany, E. C. (1985). Comparison of external correlates of MMPI substance abuse scales across sex and race. Journal of Consulting and Clinical Psychology, 53(4), 520-525.

Solomon, S. D., (1981). Tailoring Alcoholism Therapy to Client Needs. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism.

Stockwell, T., Murphy, D., & Hodgson, R. (1983). The severity of alcohol dependence questionnaire: Its use, reliability and validity. British Journal of Addiction, 78, 145-155.

Thomas, R. M. (1985). Comparing Theories of Child Development (2nd

in multidisciplinary service development. In N. Heather, I. Robertson, & P. Davies, (Eds.), The Misuse of Alcohol: Crucial Issues in Dependence Treatment & Prevention (pp. 72-94). Washington Square, NY: New York University Press.

Trell, E., Kristenson, H., & Fex, G. (1984). Alcohol-related problems in middle-aged men with elevated serum gamma-glutamyltransferase: A preventive medical investigation. Journal of Studies on Alcohol, 45(4), 302-309.

Wanberg, K. W., Horn, J. L., & Foster, F. M. (1977). A differential assessment model for alcoholism: The scales of the alcohol use inventory. Journal of Studies on Alcohol, 38(3), 512-543.

Watson, R. R., Mohs, M. E., Eskelson, C., Sampliner, R. E., & Hartmann, B. (1986). Identification of alcohol abuse and alcoholism with biological parameters. Alcoholism: Clinical and Experimental Research, 10(4), 364-385.

Working Group on Alcohol Statistics. (1984). Alcohol in Canada: A National Perspective. Ottawa: Health and Welfare Canada.